NURSING

Practical - I & II

Vocational Education

HIGHER SECONDARY - SECOND YEAR

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PRACTICAL - I

S. No.	Procedure	Date		Signature
		Ward	Classroom	
1.	Methods of feeding			
2.	Oxygen inhalation			
3.	Steam inhalation			
4.	Hot application			
5.	Cold application			
6.	Collection of specimen			
	Urine			
	Motion			
	Blood			
7.	Urine Examination			
	Albumin			
	Sugar			
8.	Administration of medication			
9.	Turning schedule			
10.	Minor wound dressing			
11.	Nasogastric aspiration			

PRACTICAL - II

S. No.	Procedure	Date		Signature
		Ward	Classroom	
1.	Assessment of Pregnant abdomen			
2.	Anthropometric measurement for under five children			
3.	Restraints			
4.	Preparation of balanced diet			
5.	Preparation of diet for sick			
	Liquid			
	Semi-solid			
	Solid			
6.	Ante-natal exercise			
7.	Postnatal exercise			
8.	Cord care			
9.	Breast care			
10.	Perineal care			
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PRACTICAL - I

1. METHODS OF FEEDING

Definition

Feeding given other than, through the mouth is called “Extra oral feeding”

Different methods of artificial feeding:

- Nasal feeding or nasal gavage
- Gastric gavage, feeding through oro-gastric tube.
- Gastrostomy and enterostomy feeding.
- Rectal feeding
- I.V infusion.

Nasal Feeding (Or) Nasal Gavage

The administration of liquid foods into stomach by a tube inserted through the nostrils is called nasal feeding or nasal gavage.

Purpose:

- To provide adequate amount of all type of nutrients.
- To administer large amount of fluids.
- To aspirate the stomach contents

Indications:

- When the client is unable to take food by mouth for example, unconscious, semi conscious and delirious client.
- For client who refuses food eg: client with psychosis.
- When the condition of mouth or oesophagus make the swallowing difficult or impossible for eg: Fracture of the jaw, repair of the cleft lip and cleft palate, surgery of the mouth, throat and oesophagus, paralysis of face and throat, stricture of oesophagus
- When the client is too weak to swallow food or when the conditions make it difficult to take a large amount of the food orally.
- When the client is unable to retain the food.

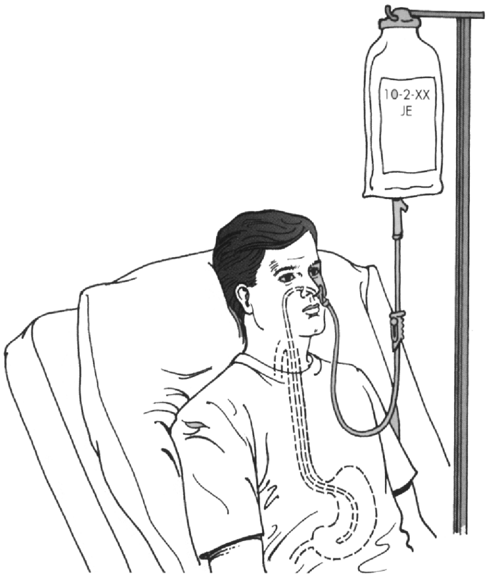
Articles	Purpose
1. Feeding cup with water	To give mouth wash
2. Kidney tray	before and after the food to receive the waste liquids
3. *Mackintosh* and towel.	To protect the garments
4. Cotton tipped applicators	To clean the nostril
5. Saline soda bicarb solution	To flush the tube
6. Levine tube or Ryle's tube in a bowl of ice.	To insert
7. Lubricant such as water soluble jelly or Glycerin or liquid paraffin.	To lubricate the passage.
8. Adhesive plaster and scissors.	To fix the tube in position
9. Rag pieces in a container	To wipe the secretions.
10. Paper bag	To collect the wastes.
11. Clean syringe or a funnel in a tray.	To aspirate the gastric contents and to give the feeding.
12. A glass of food in a bowel of warm water.	To give the feed at the body temperature.
13. Ounce glass	To measure the fluid intake.
14. A bowel with water	To test the location of the tube
15. Clamp	To clamp- the tube to prevent leakage of gastric contents.
16. Section apparatus	To clear the airway in case of unconscious or seriously ill client who is prone for vomiting and aspirating the fluid into the respiratory tract.

Steps of Procedure	Reason
1. Wash hands	To prevent cross infection
2. Take the tube and check whether it is good order condition, Expel the water from the tube and check the tube for patency.	Any blockage should be corrected before introducing the tube if any water is remaining in the tube, it can dribble into the trachea and chock the client.
3. Lubricate the tube for about 6 to 8 inches with the lubricant should be applied to the minimum.	Lubrication of the tube reduces friction between mucus membrane and the tube. if the lubricant is excessive, it may dribble into the trachea and may cause respiratory distress
4.Measure the distance on the tube, from the bridge of the nose to earlobe and to the tip of the xiphoid process of the sternum. Mark the distance of the tube.	Rough guide to determine length of the tube to reach the stomach.
5.Hold the tube, coiled in the right hand and introduce the tip into the left nostrils.	Nasal septum is deviated to the right side.
6.Pass the tube gently but quickly, backwards and downwards. Momentary resistance may occur as the tube is passed into the nasopharynx. Have the client to flex the head withdraw the tube about one inch, rotate it inside ways and gently advance the tube.	Flexion of the head, helps to flex the tube at the Naso-pharyngeal junction and the tube enters the pharynx. Stop if there is marked resistance and inspect the posterior cavity for coiled tubing.
7.When the tube reaches the pharynx, the client may gag. Allow him to rest for a moment. Ask him to take panting breaths	Panting relaxes the pharynx. A brief pause, may prevent vomiting
8.Have the client, take sips of water and swallow on command. Advance the tube 3 to 4 inches, each time client swallows. Continue to advance the tube until it reaches the previously designated mark.	Swallowing facilitates the swallowing of the tube through the oesophsgus. Mark on the tube indicates the tube has reached the stomach.Excessive gasping, coughing and cyanosis are signs of the respiratory distress; the tube may be in the trachea. Immediately pull it out.

9. Check the placement of the tube in the stomach. • Aspirate for gastric contents with a syringe. • Place the end of the tube with a syringe barrel or dip into a bowel of water and note the rhythm of escaping bubbles. • Ask the client to hum or speak.	Fluids cannot be freely aspirated from the lungs. If the tube is in the trachea air bubbles will coincide with the expiration of each breath. The client will be unable to hum or speak if the tube is in trachea.
10. After the tube is in place tape it, to the side of the face and wait for sometime before giving the feed.	Careful fixing of the tube prevents it from being displaced. A few minutes rest will help to subside the peristalsis and prevent nausea and vomiting.
11.Before giving feed pours some water through the funnel and lower the funnel slowly, so as to expel the air. • Then give the feed and the medications which are kept ready for the client. When the feed is finished, pour a little water and clamp the tube firmly to prevent leakage of fluids.	Expelling the air from the tube before the feed is given, not allowing the fluid to run completely, damping the tube at the end of the each feed, are some of the measures to prevent the entry of air into the stomach.

AFTER CARE OF THE CLIENT AND ARTICLES

1. Offer a mouthwash, clean the face and hands and dry them.
2. Remove the mackintosh and towel.
3. Make the client comfortable in bed.
4. In case of unconscious or seriously ill clients apply suctions, if secretions are collected in the mouth.
5. Take all articles, to the utility room, discard the water and clean the articles with soap and water. Dry them. Replace them into their proper place.
6. Wash hands.
7. Record the time, date, amount of feed, the nature of the feed, the reaction of the client if any, in the nurses' record as well as in the intake and output chart.
8. Remove the tube when the tube feeding need to be stopped.



Gastrostomy Feeding : It is the introduction of Fluid (or) liquid food through a tube or catheter which the surgeon has introduced in to the stomach through the abdominal wall.

Purpose : To give nourishment to the patient.

Indications

- Tumours or operations on the upper alimentary tract.
- Cancer of oesophagus
- Stricture of oesophagus caused by poisoning.

Contra indication : Abdominal surgery

Articles required

- A funnel, rubber tubing, glass connection and a screw clip which were sterilized boiled and kept in covered container.
- A cup of drinking water.
- Required amount of feed in a jug, kept in a bowl of warm water.
- Sterile lubricant.
- A sterile tray with dressing materials and forceps
- Medicines offered if any
- Kidney tray.
- Many tailed binder.
- Small mackintosh and towel

Procedure

- Explain the procedure to the patient and screen the bed.
- Assemble all the equipments at the bed side.
- Protect the dress and bed of the patient by spreading the small mackintosh and towel.
- Open the binder, and wash hands.
- Remove the dressing and clean the surrounding area and cover the wound with a sterile piece of gauze.
- Unscrew the clamp from the gastrostomy tube and attach the glass connection rubber tubing and funnel.
- Keep the tube pinched, to prevent air from getting in.
- Pour some clear water into the funnel and lower the funnel a little to let out the air.
- Then pour the feed, before the funnel is empty.
- If any medicine is ordered that should be poured in.
- Follow it with water to irrigate the tube and to prevent the escape of gastric juice.
- Disconnect the glass connection tubing and funnel of clamping the gastrostomy tube.
- Clean and apply sterile ointment, dress the wound apply binder, remove the equipment clean, boil and replace them.
- After the feed, instruct the patient to remain quiet in the bed.
- When the tube is to removed after feeding, it is left for few minutes in the stomach to avoid peristalsis.
- It is then gently removed. Record the time, kind and amount of feed and condition of the surrounding area.

Oro Gastric Tube

Oral insertion of the gastric tube follows the same, guidelines as in the nasal insertion.

1. Premeasured the tube from the lips to sternum.
2. To facilitate the passage of the tube, ask the client to suck on the tube, as if like a straw and swallow at the same time.

Summary

1) Feeding given other than, through the mouth is called “Extra oral feeding”
2) Different methods of artificial feeding:

- Nasal feeding or nasal gavage
- Gastric gavage, feeding through oro-gastric tube.
- Gastrostomy and enterostomy feeding.
- Rectal feeding
- I.V infusion.

3) The administration of liquid foods into stomach by a tube inserted through the nostrils is called nasal feeding or nasal gavage.

4) Gastrostomy feeding is the introduction of Fluid (or) liquid food through a tube or catheter which the surgeon has introduced in to the stomach through the abdominal wall.

QUESTIONS

I. Choose the correct answer

1. The lubricated about Ryle's tube is

   a) 2-4 inches b) 4-6 inches c) 6-8 inches d) 7-9 inches.

2. The measurement for nasal feeding is taken from

   a) The bridge of the nose to ear lobe to the tip of the xiphoid process.

   b) From the mouth to the xiphoid process c) From the neck to the xiphoid process

   d) From the mouth to the umbilicus

II. Fill up the blanks

1. Contraindication for gastrostomy feeding is _______________.
2. The placement of the ryle's tube is checked by _______________.

III. Write short answers

1. What are the different methods of artificial feeding
2. Write the purposes of nasal feeding

IV. Write in detail

1. Various methods of artificial feeding.

2. OXYGEN INHALATION

Definition

Patients with respiratory dysfunctions are treated with oxygen inhalations to relieve anoxaemia or 'hypoxaemia' (deficiency of oxygen in the blood).

Indications for Oxygen Therapy

- Cyanosis (bluish colour of the skin, nail beds and mucus membranes).
- Breathlessness or labored breathing.
- An environment low in oxygen content. Eg..high attitudes.
- Anaemia.
- Diseases or conditions in the oxygen across the capillary membrane.
- Shock and circulatory failure.
- Haemorrhage and asphyxia.
- Critically ill patients.

Methods of oxygen administration

The manner in which oxygen is administered depends upon the condition of the patient.

Oxygen can be delivered

1.Nasal cannula
2. Oxygen by nasal catheter
3. Oxygen by mask
4. Oxygen tent
5. Transtracheal oxygen

1) Nasal cannula

A nasal cannula is simple comfortable device

The flow rate is 4L / min (1L =24%., 2L = 28%., 3L =32%., 4L = 36%)

2) Oxygen by nasal catheter

Most common method of oxygen administration.

Flow of 1 to 4 litres of oxygen/mt

The oxygen concentration will be 22-30%

3) Oxygen by mask

It has many types

- Simple Mask:
  Flow rate: 5-10 L/MIN
  Oxygen concentration: 40-60%
- Partial Rebreathable Mask:
  Flow rate: 6-15 L/MIN
  Oxygen concentration: 50-90%
  (use reservoir bag)

PURPOSE: capture some oxygen for rebreathing

- Non Rebreathable Mask
  Flow rate: 6-15L/min
  Oxygen concentration: 70-100%.

- Venture Mask

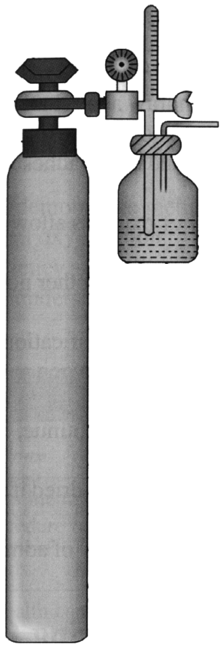
  Oxygen concentration: 24-50%

- Oxygen Tent

  Flow rate: 8-12L/MIN

  Oxygen concentration: 24-100%

  Hazards of oxygen inhalation



- Infection
- Combustion [fire]
- Drying of the mucus membranes of the respiratory tract
- Oxygen toxicity
- Atlectasis
- Retrolental fibroplasia
- Asphyxia

Preparation of articles

Articles	Purpose
A) Oxygen cylinder with its:	
• Stand and accessories.(the regulator,flow meter, humidifier, connecting tube etc.,)	
• Check and see whether the whole system works in good condition.	
B) A tray containing	
• Nasal catheter of appropriate size, clean and sterile or disposable type.	To administer oxygen without introducing infection into the respiratory passage.
• Water soluble lubricating jelly.	To lubricate the catheter.
• Adhesive tapes.	To secure the catheter.
• Bowl of water.	To test the oxygen flow
• Flow light and tongue depressor.	To help to assess the correct placement of the catheter.
• Cotton applicators and normal saline in a container.	To clean the nostrils.
• Kidney tray and paper bag.	To receive the wastes.
• Mackintosh and towel.	To protect the garments.
• Rag piece (or) gauze pieces in a container.	To wipe the secretions nose and mouth.

Procedure:

Steps to procedure	Reason
• Wash hands	To prevent cross infection
• Measure the length of the catheter from the tip of the nose to ear lobe. Mark the length with ink.	The distance from the tip of the nose to ear lobe roughly equals the distance from the anterior nares to the uvula.
• Check he apparatus for the working condition. Open the main valve in an anti clock wise direction. Look for the pressure reading on the gauge. Adjust the flow of oxygen to 2-4 litres for adults.	Checking the apparatus before inserting the catheter will help to find out the amount of oxygen in cylinder to check whether whole apparatus is good working condition
• When the wheel valve is opened, the oxygen will start bubbling through the water in the wolf's bottle.	Bubbling through the water in the wolf's bottle will help to humidify the gas, to assess the patency of tube and flow rate.
• Lubricate the tip of the catheter sparingly with water soluble jelly and check the flow by immersing it in water.	Lubricating the tube prevents the irritation of the nasal mucosa.
• Introduce catheter slowly into one of the nostrils of the previously marked distance. Never use force.	Forcing the catheter can cause injury to mucus membrane.
• Check the position of the catheter in the oropharynx at the level of the uvula.	
• It can be checked by asking the patient to open his mouth widely.	Checking is done to make sure that the catheter is positioned in a correct place and not kinked.
• Depressing the tongue with tongue depressor, directs the flash light into the throat.	
• Fix the catheter over the forehead or at the cheek with adhesive tapes	Prevent the displacement of the catheter when the patient moves in the bed
• Save the connecting tube to the bed clothes, patient gown, safety pin.	

After care of the patient and articles:

- ✓ Stay with the patient till he is at ease.
- ✓ Keep the patient warmth and comfort
- ✓ Assess the vital signs frequently
- ✓ Record the procedure with date and time on the nurses record.
- ✓ Check the apparatus for its good working condition.
- ✓ Change the nasal catheter by every 8 hours.
- ✓ When the oxygen is to be stopped do it gradually.
- ✓ Watch the patient for any deteriorating symptoms after the removal of oxygen inhalations.

Summary:

- Patients with respiratory dysfunctions are treated with oxygen inhalation.
- Cyanosis , labored breathing , high altitudes, anaemia, certain disease conditions of the lung, shock , haemorrage and asphyxia are the indications for oxygen therapy.
- Oxygen can be delivered through nasal cannula, nasal catheter, oxygen mask, oxygen tent and through trans tracheal methods.
- The hazards of oxygen inhalations are infection, combustion, dryness of mucus membranes of the respiratory tract, oxygen toxicity, atelectasis, oxygen induced apnoea and retrolental fibroplasias.

QUESTIONS

I. Choose the correct answer

1. Oxygen concentration by simple mask is

   a) 50 90% b) 40 60% c) 70-100% d) 24-50%

2. Flow rate of oxygen by rebreathable mask is

   a) 6-15 lit/min b) 5-10 lit/min c) 4lit/min d) 4-10 lit/min

II. Fill up the blanks

1. Oxygen flow rate by nasal cannula is ____________
2. Oxygen flow rate by simple mask is ____________
3. Oxygen flow rate by partial rebreathable mask is ____________

III. Short answers

1. What are the hazards of oxygen inhalation.
2. List the articles required for oxygen inhalation and with purposes.

IV. Write in detail

1. Write down the indications for oxygen therapy and the various methods of oxygen inhalation.

3. STEAM INHALATION

Definition

Breathing warm and moist air produced by a vaporizer is called steam and moist inhalation.

Purpose

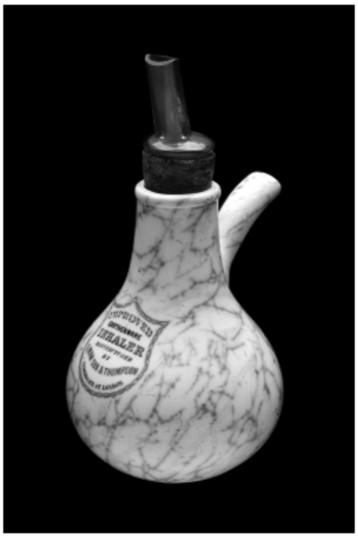
- To relieve the inflammation and congestion of the mucous membrane of the respiratory tract and paranasal sinuses.
- To soften thick, tenacious mucous and help its expulsion from the respiratory tract.
- To provide heat and moisture to prevent dryness of mucous membranes of lung.
- To aid in absorption of oxygen.

Drugs used:

- Tincture benzoin 5ml per 500ml of boiling water.
- Eucalyptus 2ml per 500ml of boiling water.
- Camper few crystals per 500ml of boiling water.

Methods of giving steam inhalation

Jug method : In this method, a Nelson's inhaler is used. Inhalant and boiling water is filled in jug and patient is ashed to breaths the vapour.



Steam tent: When a high concentration of steam is required, a steam tent may be used. A quick and easy method is to place a screen on either sides of the patient's bed and stretch blankets or sheets across them and form a lobby.

The steam can be directed into the tent from the spout of a kettle. The steam may be given for 20 to 30 minutes at a time and it may be repeated every four hours.

Electric steam inhaler : Small electric vaporizes can be used to give steam inhalation. It consists of small jar with a heating element extending into the jar. Jar is filled with water. On the top of the jar is a removable perforated cup to which a small metal spout is attached.

Nurses responsibilities in the administration of steam inhalation using a Nelson's inhaler
Preparation of articles

Articles	Purpose
• Nelsons inhaler with a mouth piece tightly fitted to the neck of inhaler.	To prevent the escape of vapour and to prevent the spillage of water.
• Bowl or basin large enough to hold the inhaler.	To place inhaler safely.
• A flannel piece or towel	To wrap around the inhaler.
• Face towel	To wipe the patient's face.
• Bath towel	To put over the patient's head and jug to prevent loss of steam.
• Tincture benzoin or any other inhalant ordered.	Used as a respiratory antiseptic.
• Teaspoon or a measurement glass.	To measure inhalant.
• Gauze piece in a container.	To wrap around mouth pieces.
• Cotton swabs	To plug spout.
• Kidney tray and paper bag.	To receive wastes.
• Back rest or cardiac table	To increase the size of the thoracic caritis and to maintain upright position lean forward and support.

Procedure

Steps	Reasons
• Measure the capacity of inhaler with cold water.	To determine the amount of inhalant
• Warm inhaler by pouring a little hot water into jug and empty it.	To maintain temperature.
• Pour required inhalant into inhaler and fill jug with 2/3 hot water.	If the inhaler is filled till brim there is a possibility of drawing water into mouth.
• Place the mouth piece and close jug tightly. See that mouth piece is in opposite's direction to the spout.	This arrangement keeps spout away from patient.
• Cover jug with flannel piece.	To prevent injury to the lips.
• Place inhaler in basin and take it to bedside.	To reduce chance of burns.
• Place apparatus in front of patient with spout opposite to the patient. Remove cotton plug and discard it.	Removing cotton plug to keep up patency of spout for air.
• Instruct patient to place lips on mouth piece of the apparatus and breathe in vapour. After removing lips from mouth piece breath out air. Alternately breathe through nostrils.	Directing steam through nostrils relieve congestion of mucous membrane.
• Cover the patient's head and jug with a bath blanket or a bath towel.	To direct the steam around face of patient.

After care of patient and articles

- Continue treatment for 15 to 20 minutes.
- Wipe off the perspiration from the face.
- Remove the back rest and cardiac table.
- Adjust position of patient in bed. Make him comfortable.
- Instruct him to return in bed for 1 to 2 hours to prevent draught.
- Record the procedure on the nurse's record with date and time.

Summary

1) Steam inhalation is to relieve the inflammation and congestion of the mucus membranes of the respiratory tract and paranasal sinuses.

2) There are three methods of steam inhalation are jug method, steam tent, electric steam inhaler.

3) Drugs used for steam inhalation are:

- Tincture benzoin 5ml per 500 ml of boiling water.
- Eucalyptus 2ml per 500ml of boiling water.
- Camper few crystals per 500 ml of boiling water.

QUESTIONS

I. Choose the correct answer

1. The duration for steam inhalation is

   a) 5- 10 minutes b) 10-15 minutes c) 15-20 minutes d) 20-25 minutes

2. Drugs used for steam inhalation are:

   a) Tincture benzoin 5ml per 500ml of boiling water

   b) Eucalyptus 2ml per 500ml of boiling water.

   c) Camper few crystals per 500ml of boiling water.

   d) All of the above

II. Fill up the blanks

1. Nelson inhaler is the _________method of steam inhalation.
2. The steam may be given for _________ to _________ minutes.

III. Write short notes

1. Methods of steam inhalation.
2. Articles and purpose of steam inhalation.

IV. Write in detail

1. Write the steps involved in Nelson's steam inhalation procedure with rationale.

4. HOT APPLICATION

Definition

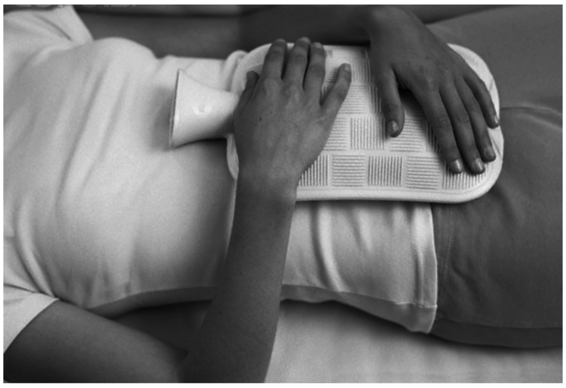
Hot application is the application of a hot agent, warm the skin either in a moist or dry form, on the surface of the body to relieve pain and congestion to provide warmth, to promote suppuration to promote healing to decrease the muscle tone and to soften the exudates.

Classification of Hot application

- Local
  - **Dry Heat**
    - Hot water bottles
    - Chemical heating bottles
    - Infra red rays
    - Short wave diathermy
    - Heating lamps
    - Electric cradles
    - Electric heating pads
    - Ultra violet rays
  - **Moist Heat**
    - Warm soaks
    - hot fomentations
    - Polutices
    - Stupes
    - Paraffin battle
    - Sitz bath
    - Aquathermia pad
- General
  - **Dry Heat**
    - Sun bath
    - Electric cradles
    - Blanket bed
  - **Moist Heat**
    - Steam bath
    - Hot packs
    - Whirlpool bath

Purpose

- To stimulate circulation
- To promote suppuration
- To promote healing
- To relieve pain
- To reduce pain
- To reduce inflammation and congestion.
- To supply warmth and comfort
- To relieve muscle spasm.
- To relieve retention of urine.



Indications

- Local congestion
- Muscle spasm
- Fatigue
- Pain

Contra indications

- Heat is not used in malignancies, because heat increases, the metabolism of both the normal and abnormal cells.
- Heat is not used for client with impaired kidney, heart and lung functions. The vasodilatation of the cutaneous vessels produced by the heat might greatly reduce the blood supply to these vital organs and defect their functions.
- Heat should not be applied to actually inflamed areas. E.g. acute applications and tooth abscess. Because heat may cause them to rupture and surrounding tissues.
- Heat should not be applied on the clients with paralysis, weak and debilitated clients, because they have impaired perceptions and they may not be responding to hot application resulting in burns.
- Heat should not be applied, when there is oedema, associated with venous or lymphatic disease. It can increase the oedema.
- Heat should not be applied in case of head ache, because the resulting vasodilatation will increase the discomfort.
- Heat should not be applied on clients with metabolic disorders. Because of the increased hazards of tissues damage. e.g client with diabetes, Arteriosclerosis.
- Heat should not be applied on client with high temperature.
- Heat should not be applied to very young and very old people because of the risk of tissue burns.

Articles Required

Articles	Purpose
Hot water bag (1)	To take water
Jug(1)	To wipe the outside of the3 bag
Duster(1)	To insulate the hot water bag.
Towel(1)	To wipe the skin.
Vaseline or oil	To apply on the skin, if its red
Lotion thermometer	To check the temperature of the water

Procedure

Steps of procedure	Reason
• Wash hands	To prevent cross infection
• Take hot water in the jug pour some water into the hot water bottle and empty it.	To warm the hot water bag, so that very little heat is lost to warm the rubber and the client gets the full benefit of the heat application.
• Check the temperature of the water, or keep the boiled water until the steam disappears.	The water should not be hot, enough to scald the client, if the bag, leaks or bursts. The temperature of the water should be between 120 to 140°F.
• Full one- third to half of the bottle with the hot water.	To avoid unnecessary, weight on the body part, especially if applied over the abdomen. Full bag is not pliable to mould over the body, area to provide even heat.
• Place the bag, over a flat surface and expel the air, cork it tightly.	Air in the bag, will integrate with the conduction of heat.
• Dry the outside of the bag and test for leakage by holding the bag upside down.	To prevent scalding of the client
• Put on the cover and take it to the bedside.	The cover is used to absorb any moisture, since water is a good conductor of heat, any moisture between the hot water bottle and the skin increases the risk of burns.
• Apply the hot water bottle over, the area and cover it with the towel or sheet.	Towel or sheet is used to insulate, the bag from the heat loss.
• Keep the bottle in a place, for about 20 to 30 minutes changing the position of the bag as necessary. Inspect the area occasionally. Refill the bag, if necessary	Application of heat beyond 30 minutes, may lead to secondary effects. Inspection of the area and changing the position of the bag will prevent burns.

After care of the client and the articles

- Remove the hot water bag, when the treatment is completed.
- Dry the area, if moist with perspiration.
- Inspect the area for redness; if redness is present apply Vaseline or oil.
- Cover the client, with sheets and remove the drapes if any.
- Position the client comfortably on the bed.
- Take all articles to the utility room. Remove the cover of the hot water bottle and put it in the laundry bg. Empty the bag was the outside of the bag with soap and water, dry the inside of the3 bag, hanging it upside down. When dried, fill it with air and cork it, and store it. In its proper place. Replace all other articles.
- Wash hands.
- Record the procedure with date and time, the area to which it is applied, the purpose of the application and the reactions if any.

Infra red rays: (infra red lamp) : Infra red lamps transmit infra red rays, which are invisible heat rays., beyond the red end of the spectrum.

Ultra violet rays (Ultra violet lamp) : Ultra violet lamp transmits Ultra violet rays which are invisible heat rays beyond the visible spectrum at the violet end. Both these rays are used therapeutically for production of heat in the tissues.

Therapeutic uses

1. Promotes healing of decubitus ulcer.
2. Softens connective tissue
3. Relives pain spasm of the strained muscles.

Chemical Heating Bottles : These are sealed plastic containers of various sizes, contain two different kinds of chemical compounds in separate compartments.

When heat treatment5 is to be given, the nurse kneads, strikes of or squeezes the bottle vigorously. The two compounds are designed to maintain a constant temperature between 40 and 46° for 30 minutes to 1 hour.

The radiation heat produced by the infra red and ultra violet lamps are more intense the heat given off from the heating lamps. The effects of the exposure to the ultraviolet lamps.

- Pigmentation of the skin.
- Production of Vit D
- Bactericidal effects
- The duration of the treatment is usually 20 to 30 minutes.

Electric cradles:

1. Electric cradles is a bed cradle, inside of it is fitted a light source and a thermometer.
2. It is used when a large body part is to be treated. E.G to dry large plaster body coasts.
3. It is also used, when the with gown or sheets.
4. Sheet is used over the cradle to prevent draughts.
5. Blankets can be added the cradle to maintain the heat at the desired level.
6. The duration of the heat cradle treatment is 20 to 30 min after the unit is warmed up or it may be used continuously, provided a low temperature is maintained.

Heating Lamps : Flexible necked lamps are used to supply heat to the body part. The distance between the exposed part and the lamps depend upon the wattage of the light bulb, the pigmentation of the skin and the heat tolerance by the client.

The recommended distances are as follows

1. 25 watt bulb = 35 cm from the body part
2. 40 watt bulb = 45 cm from the body part
3. 60 watt bulb = 60 to 75 cm from the body part.

Electric heating pads

Electric heating pads are composed of an electric coil inside of a water proof rubber covering and is provided with a heat control switch to maintain the temperature at the desired level.

The following precautions are to be taken, when using heating pads.

1. It should be covered with a flannel cloth to absorb the perspiration and to insulate the pad.
2. No wet dressings should be applied when an electric heating pad is being used.
3. Do not apply a heating pad with pressure, since the pressure reduces the number of air space between the client and the appliances. It increases the chances of burns.
4. Instruct the client, not to lie or lean against the heating pad.

Summary

1. Hot application is the application of a hot agent to warm the skin either in a moist or dry form.
2. Hot applications are classified into local and general application.
3. The local applications and general applications are further classified into dry heat and moist heat.

4. The purposes of hot application are to stimulate circulation, promote suppuration, healing to relieve pain, reduce inflammation and congestion, muscle spasm and retention of urine and to supply warmth and comfort.

5. The indications for hot applications are local congestion, muscle spasm, fatigue and pain.

QUESTIONS

I. Choose the correct answer

1. The hot application is to promote

   a) Circulation b) Sleep c) Muscle spasm d) All of the above

2. Application of heat in a place for

   a) 20 -30 minutes b) 5 10 minutes c. 30 -40 minutes d) All of the above

3. Ultra violet rays are used for

   a) Soften connective tissues b) Improve circulation
   c) improve comfort d) All of the above

4. The chemical heating bottles temperature is between

   a) 40- 46^{0}c b) 15- 25^{0}c c) 50- 56^{0}c d) All of the above

II. Fill up the blanks

1. Temperature of the water of hot fomentation is _________
2. The duration of the ultra violet lamp treatment is _________
3. Air in the hot water bag will interferes with _________ of heat.
4. The ultra violet rays promotes healing of _________.

III. Short answers

1. Classification of hot applications.
2. Write the purposes of hot applications.
3. Mention the therapeutic uses of ultra violet rays.

IV. Write in detail

1. Dry heat methods.
2. Procedure of hot application.

5. COLD APPLICATION

Definition

Cold application is the application of a cold agent cooler than skin either in a moist ort dry form on the surface of the skin, to reduce pain and body temperature to anesthetize an area to check hemorrhage to control the growth of bacteria to prevent gangrene, to prevent oedema and reduce inflammation.

Classification of cold applications

- **Local**
  - **Dry cold**
    - Ice bag
    - Ice collar
    - Ice pack
    - Ice cradle
    - Chemical cold packs
  - **Moist cold**
    - Ice water
    - Cold compress
    - evaporating lotion
- **General**
  - **Dry cold**
    - Hypothermia
  - **Moist cold**
    - Cold sponging
    - Cold bath
    - Cold packs

Purpose

- To reduce pain and body temperature.
- To anesthetize an area
- To check haemorrhage
- To control the growth of bacteria
- To prevent gangrene
- To prevent oedema
- To reduce inflammation

Indications

- Fever
- Haemorrhage
- Inflammation

Contra indication

- Hypothermia
- Surgery
- Severely il

Local cold applications

Ice bag : An ice bag is a dry cold application. The bag is filled with crushed ice or ice chips and sprinkled sodium chloride. The salt lowers the melting point and prevents the ice from melting.

Crushed ice is better than ice cubes. The smaller pieces of crushed ice, allow easier moulding of the bag to the body point. There is loss airspace between crushed ices. The result is a more even cooling.

Articles required

- Ice bag or collar
- Gushed ice or ice chips
- Flannel cover
- Sodium chloride

Procedure

- Explain the procedure to the patient.
- Fill the ice bag with water, put in the stopper turn the bag, upside down to check for any leakage.
- Fill the bag half to two-third with crushed ice
- Sprinkle sodium chloride.
- Keep the bag on a flat surface and squeeze out the air presence of air will interfere with the thermal conductivity
- Screw the cap tightly.
- Wipe outside of the bag and put on the cover. Apply the Ice bag over the area.
- Clean the area with a bath towel.
- Make client comfortable.
- Clean the equipment and place it in the proper place
- Discard the used articles.
- Wash hands.
- Document the care-time, site, duration of the application.

Cold packs: Commercially prepared ices are available. These bags are sealed containers filled with chemical or non-toxic substance. Depending on the type, the bags ate frozen in the freezer or squeezed to activate the chemical that produces the cold. These packs have the advantage that the frozen solution remains pliable and can be easily moulded to fit the body part.

Articles Required

- Large basin with ice.
- Small basin with cold water.
- Gauze pieces or small towels.
- Water proof pad.
- Bath towel

Procedure

- Explain the procedure to the patient.
- Wash hands.
- Place the small basin with cold water into large basin with ice.
- Place the compress in the cold water.
- Keep the water proof materials under the part.
- Check the area, every 5 minutes.
- Change the compress every 5 min or when it becomes hot.
- Place the bag in the flannel cover. Flannel cover will absorb the moisture collected on the outer Ride of the bag.
- Apply it on the ordered area since the ice bag is cooler than the skin, the ice takes up heat from the body and reduces the temperature.
- The ice bag is applied for 30 minutes and then it is discontinued for at least 1 hour to allow for the recovery period.
- Make sure the client is comfortable.
- Empty the contents clean the articles and replace it in proper place.
- Wash hands.
- Document the care-time, site, response of the client, observation of the skin area.

Ice collar : It is applied to the neck, commercial ice bags are available. They are re-frozen for reuse. They are filled with a special solution and kept in the freezer until needed. Flannel covers are needed with ice collar (or) commercial ice bags.

Cold-compress : It is a local moist cold application. It may be sterile or unsterile. Sterile cold compress1 are applied over open wounds or breaks in the skin.

Cold compress are made out of folded layers of gauze, limit piece or old soft linen, wring out of cold or ice water. Or in some evaporating lotion (1 Part of sprit with 3 parts of water) and applied to the required area. It is left uncovered. Cold compress is left in a place for not more than 20 minutes.

The skin beneath the pack should be assessing periodically for symptoms of numbness and pain. Non-commercially, the pack can be wash cloth, towel, flamed or a piece of old linen depending on the size of the body part receiving the application.

A basin of cold water is prepared and the packs are immersed into it, when cooled, the excess of water is wrung out and the pack is applied to the body parts. Replace the pack as necessary to maintain coolness.

Chemical cold packs : These are similar to the chemical hot packs.

General cold applications: Cold sponging is used to reduce temperature in a client with "hyperpyrexia".

Large areas of the body are sponged at one time permitting the heat of the body to transfer to the cooler solution on the body surface. Often wet towels are applied to the neck, auxillae, groin and ankles where the blood circulation is close to the skin surface. Each area is dried by patting rather than by rubbing, since the rubbing will increase the cell metabolism and raise the heat production. The vital signs is checked frequently, to detect the early signs of the complications.

Cold sponging is hazardous to the client if the temperature of the body is bought down, rapidly from a high temperature to a very low temperature. In cold sponging, the temperature of the coater is kept between 65 and 90° F.

Tepid sponging : Tepid sponging is a safe method to reduce the body temperature in high pyrexia. It is carried out on the order of a physician. The temperature of the water is kept between 85 and 100° F.

Summary

1) Cold application is the application of a cold agent, cooler than skin either in a moist or dry form on the surface of the skin.
2) There are two types of cold application local and general.
3) Indication for cold application are fever haemorrhage and inflammation.

QUESTIONS

Choose the correct answer.

1. Contra indication for cold application is

   a) Surgery b) Fever c) Inflammation d) All of the above

Fill up the blanks

1. ___________bag is used to cold application.
2. ___________ is a safe method to reduce the body temperature in high pyrexia..
3. The ice bag is applied for_____________ minutes.

Write short notes

1. Classification of cold application
2. Purposes of cold application

Write in detail

1. Local cold applications
2. General cold applications.

6. COLLECTION OF SPECIMEN

Definition of specimen : A specimen may be defined as a small quantity of a substances (or) object which shows the kind and quantity of the whole (sample)

The Nurses responsibilities in collection of specimen are,

- Preparation of the patient
- Informed consent
- Safety measures
- Preparation of the equipment
- Documentation

Collection of the equipment

- Methods of collecting single urine specimen.
- Methods of collecting mid stream specimen.
- Methods of collecting 24 hours' urine specimen.

Methods of collecting single urine specimen

Definition : Single urine specimen means the amount of urine voided at a time. Usually morning specimens are collected. 100-200 ml of urine necessary.

Purpose

For test purpose only.

Procedures

a. Cleaning the genital area.
b. Provide clean kidney tray (or) urinal (or) directly into the specimen bottle.
c. Taking care not to spill the urine outside of the container.

Methods of collecting mid-stream urine

Definition : Mid stream urine collection means collecting mid-stream part of the urine.

Purpose

- For culture test.
- To detect UTI infection
- To analyze of quantities and qualities of urine.

Procedure

1. Clean the genital area with soap water rinse with water alone.
2. In female patient, the labia are separated for cleaning and kept apart until the urine had been collected.

3. In male patient, the foreskin should be returned and glands penis is cleaned before the collection of the urine.
4. The client begins to void into the toilet, commode or bed pan.
5. Then the client stops the streams of urine.
6. The sterile container is positioned. And continues to void into the urine container.
7. When enough urine has been voided for specimen, the client stops the stream again.

Methods of collecting 24 hrs urine specimen

Definition : Twenty-four hour's urine specimen means to collect all the urine voided in 24 hours.

Procedure : Collection of specimen begins at 6 am and all subsequent voiding collected in bottle. Continue to collect till next morning. The urine collection stopped at 6 am on next day.

Preservatives: It decomposes the bacteria in urine container. Eg: HCL, Formalin, Chloroform etc.

Methods of collecting urine specimen from unconscious client and children.

Procedures

Male: Test tube with barrel of a syringe (or) Nirodh with rubber tubing, attached to penis. The rubber tubing collected to a bottle.

Female : Attach a wide mouthed container or a funnel with rubber tubing to the vulva by means of a “T” binder. The rubber tubing is connected with bottle.

Collection of stool specimen

Definition : Stool may contain worms or segments of worms. Eg: round worm, thread worm, hook worm and tape worm. On microscopic examination, the stool is found to contain various amoebae.

Procedures

1. Water proof disposable containers (or) wide-mouthed containers are provided with necessary instructions.
2. The client passes stool in clean bedpan.
3. Small amount of stool is removed with a stick or spatula and placed in a container.
4. Discard the stick in a waste bin.

Collection of sputum

Definition : Sputum may be collected to detect the presence of any bacteria such as streptococci, pneumococci, diphtheria bacilli and other diagnostic examination.

Procedures

For adult

a. A sterile waterproof disposable sputum cup (or) wide- mouthed containers used to collect the specimen.

b. The client instructed to cough deeply.

c. The sputum should be collected in the morning before brushing the teeth.

To children

a. Use a cotton applicator and test tube

b. When sputum is coughed up, wipe off the sputum with cotton applicator.

c. Drop the sputum into the test tube close the tube with cotton plug.

Collection of blood specimen

- Blood is collected by venipuncture strict aseptic techniques.
- The Proper Size of Bore (18, 19, 20)
- The blood is collected in test tube.
- Penicillin tube.
- Blood should be withdrawn slowly without suction.
- Blood may be collected by finger pricking.

Transport of specimen

- These are certain specimen such as blood and CSF which are normally sterile.
- No antiseptic or anti-microbial agents should come into contact with the specimen. All specimens should be sterile.
- Specimen should be sent to laboratory immediately. In case of unavoidable delay suitable transport medium has to be used.
- Proper disposal of the specimen after use must be ensured.

Summary

1. A specimen may be a small quantity of substance or object which shows the kind and quality of the whole
2. Sputum may be collected to defect the pressure of any bacteria such as streptococci, pneumococci diphtheria bacilli.
3. The midstream urine collection means collecting the midstream part of the urine

4. Blood is collected by venipuncture strict aseptic techniques.
5. Blood may be collected by finger pricking
6. Specimen should be sent to laboratory immediately .In case of unavoidable delay, suitable transport medium has to be used.

QUESTIONS

Choose the correct answer

1. The sputum be collected in early

   a) Morning b) Evening c) Night d) All of the above

Fill up the blanks with suitable answer

1. The sputum should be collected in ________________________
2. Blood is collected by venipuncture site __________________ techniques.

Write short notes

1. Collection of blood specimen
2. Collection of stool specimen
3. Collection of sputum specimen.

Write in detail

1. Collection of urine collection.

7. URINE EXAMINATION

Albumin test

It has 2 types of test.

- Hot test
- Cold test

Hot test

Definition

Hot test means when the result is obtain after the boiling.

Requirement

- Spirit lamp
- Test tube
- Acetic acid
- Filtered urine

Procedures

- Fill 3/4th of test tube with urine.
- Heat the upper third of urine with spirit lamp.
- Allow it to boil.
- Acetic acid added drop by drop
- The cloudy appearance indicates the presence of albumin.

Cold test

Definition

Cold test means the result is obtain directly without boiling.

Requirements

- Nitric acid
- Sulphosalic acid 3%
- Test tube

Procedure

- Add equal amount of nitric acid and urine in a test tube.
- A white precipitate in junction indicates the presence of albumin.

Acetone test

Definition

This test used for detect the acetone whether it is present or not in the urine. It's otherwise called ***Rothera's test.***

Requirements

- Ammonium sulphate crystals
- Sodium nitroprusside crystals
- Liquor ammonia
- Urine

Procedure

- Take 2cm depth of NH_3 SO_4 crystals in a tube and add equal amount of urine, sodium nitropruside
- Close the test tube and shake it
- Take liquor Ammonia and trickling through the sides.

Result

Purple colour ring indicate the presence of acetone.

Test for sugar

Definition : It is the procedure for testing the urine for presence of urine sugar.

Requirement

- Spirit lamp
- Test tube
- Filtered urine
- Benedict solution.

Procedures

- Take 5 ml of Benedict solution in the test tube.
- Heat the bottom of the test tube with spirit lamp.
- Allow it to boil.
- Check for any color changes.
- Add 8 drops of urine in the test tube.
- Check for any color changes.

Blue color - +

Green color - ++

Orange color - +++

Brick red color - ++++

Summary

- There are 2 types of albumin test-

  1. Hot test and 2. Cold test

- In hot albumin test , fill 3/4th of test tube with urine, heat the upper third of urine.
- In cold test, and equal amount of nitric acid and urine in a test tube.
- White precipitate present at junction indicates the presence of albumin.
- Acetone test otherwise called as Rothera's test.
- Purple color ring indicate the presence of acetone.
- Urine sugar is tested using Benedict solution.

QUESTIONS

I. Choose the correct answer

1. The presence of acetone in the urine is identified by

a. Presence of orange colour ring.

b. Presence of purple color ring

c. Precipitation.

d. Cloudiness

II. Fill up the blanks

1. _____________ is to be added in hot albumin test.
2. Acetone test is otherwise called as _____________

III. Short notes

1. Albumin test- cold test
2. Acetone test

IV. Essay

1. Explain albumin test.
2. Test for urine sugar.

8. ADMINISTRATION OF MEDICATION

The role of nurse in the administration of medication has become increasingly complex and diversified. Administration of correct medication and dosage by the specified route, using proper technique and taking appropriate precautions were once all that was expected of a nurse. Besides administering medication, a nurse has to observe and interpret the client's response to therapy, so as to recognize the possible incompatibilities and interactions of medication. The nurse should have thorough knowledge about actions and side effects of medications and about the moral , ethical and legal aspects of drug therapy .

Administration of medication is a basic nursing function that involves knowledge and skill. The safe and accurate administration of meadication is one of the most important responsibilities of a nurse.

Nurse's six rights for safe medication administration

- The right to a complete and clearly written order.
- The right to have the correct drug route dose dispensed.
- The right to have access to information.
- The right to have policies on medication administration.
- The right to administer medications safely and to identify problem in the system
- The right to stop, think and be vigilant when administering medications.

Safety measures

- The "five rights" ensures safety in giving drugs.
- Right client • Right drug • Right dose
- Right time • Right method

Nurse's responsibilities in the administration of oral medication

- Check the diagnosis and age of the client
- Check the identification of the client the name, bed number
- Check the physician's orders for the correct name of the drug, dosage and method of administration
- Check the nurses record for the time at which last dose given
- Check for any contraindications present in the client for an oral intake of medication such as nausea, vomiting and unconsciousness
- Check the consciousness of the client and the ability to follow instruction
- Check the articles available in the client's unit

Administering oral medication

Definition : Administration of medication by mouth. Oral medication administration includes buccal (cheek) and sub lingual(under tongue).

Preparation of the medicine trolley

Articles required	Purpose
A trolley	To take different medications and articles to the bedside
A tray containing:	
A bowl of clean water	To wash the medicine glass
Ounce glass, minim glass, teaspoon, dropper etc.	To measure the medication
Drinking water in a glass or feeding cup	To offer to client after the medicine is given to him
Mortar and pestle	To crush and powder the tablets if necessary
Medicine slab and spatula	To divide the powdered drugs into single doses
Duster or towel	To wipe the outside of the bottle after pouring the medications
Kidney tray and paper bag	To discard the waste
Plastic measuring cups and soufflé cups	To take the medication to the individual client
Medicine cards	To write the medication order from the

Procedure

Nursing action	Rationale
Determine patient's preferences and physician's order for fluid restriction, if any	Patient's on restricted fluids such as those with renal lung disease
Prepare drug:	
▪ Wash hands	Reduces transfer of micro organisms to Medication and equipment.
▪ Arrange the medication tray	Saves time
▪ Prepare medicine of one patient at a time	Reduces chance of error
▪ Calculate correct drug dose	Provides accuracy
▪ If the patient has difficulty in swallowing grind tablets in a mortar with pestle. Crush it to a fine powder and mix with small amount of fluid.	Ground tablets are easy to swallow.

Nursing action	Rationale
Prepare liquids ▪ Shake the bottle ▪ Hold medication cup to eye level and fill it to desired level. ▪ For volume less than 5ml/10ml a syringe without needle can also be used to measure the quantity of medication ▪ Return drug container back to cupboard after checking label. **Administer drug** ▪ Take medication to patient at correct time ▪ Identify the patient by comparing name on card	Label should not be soiled with spilled liquids. Ensures accuracy Third check of label reduces errors.
▪ Perform necessary pre- administration assessment for specific medication ▪ Administer drugs properly Ask if patient wish to hold medications in cup/ hand before placing in mouth. ▪ Administer only one drug at twice. ▪ Offer a glans of water with the drug to be administered.	This gives information as to whether medications should be given at that time.
▪ Place medication under tongue and allow it to dissolve completely.	Certain drugs when swallowed are destroyed by the gastric juices or rapidly Detoxified by liver and thus therapeutic levels are not attained.
▪ Instruct patient to place the medication in mouth against checks until it dissolves completely in case of buccal administration	Promotes local activity on mucus membranes

▪ If patient is unable to hold medication in hand place cup to the lip and introduce each drug	Single tablet or capsule avoids difficulty in swallowing and aspiration.
▪ Assist patient to comfortable position	Maintain comfort
▪ Dispose off soiled supplies	Reduces transmission of micro organisms
▪ Record the medication administration with date time and signature	Signature establishes accountability for administration
▪ Return within 30 minutes to evaluate effectiveness of medication	Useful in detecting therapeutic effects and also detecting side effect or adverse effect

After care of the client and articles:

- Remove the towel and wipe the face with it.
- Position the client for good body alignment. Tidy up the bed
- Wash and dry all articles and replace them in their proper places
- Wash hands
- Record medications given and record the reason for omission. Record any reactions observed after the administration of the medicines.
- Return the medication cards to the storage area.

Administration of injection : The parenteral route refers to medications that are given by injection or infusion. It means giving therapeutic agents outside the alimentary tract.

Safety measures

Asepsis

a. Sterile syringes and needles.

b. Sterile water for injections.

c. Drugs used for injection should be sterile.

d. Handling the drugs and equipment used for injections with aseptic technique.

e. Cleaning of the injection site with antiseptics to reduce the number of bacteria present in the skin.

f. Protecting the injections and the equipment during the transportation of the injections to the client.

Selection of the site for injection

The selection of the site depends upon

a. Route ordered by the physician
b. The quantity of medication to be given
c. The characteristic of the medication to be given
d. Knowledge of the anatomical location of nerves.
e. Expected action of the drug.

Selection of equipment for injections

Description of syringes and needles The most usual sizes are 2, 5, 10, 30 and 50ml. the insulin and tuberculin syringes are special syringes. All syringes are made of 2 parts. The outer part is called barrel and the inner part is called piston or plunger on the barrel of all syringes is a scale indicating cubic centimeters or millimeters. The scale on the insulin syringes is marked in units according to the concentration of the insulin being used. Eg U-40, U-80 etc

Needles are made up of steel or other metals and are available in 2 varieties- disposable and reusable. These vary in length from 3/8 to 5/8 inches. The diameter sizes of the needles are indicated by number 14- 27. The gauge number is usually found on the hub of the needle.

A needle has 2 parts- the hub and the shaft. The hub of the needle fits tightly into the syringe. The shaft of the needle goes into the tissues during the injection of the medicines. A long bevel has a sharp point. Needle should be sharp and shiny in order to penetrate the tissues quickly and safely.

Criteria for selection of syringes and needles

a) The route ordered
b) Viscosity of medication solution
c) Amount of medication to be administered
d) Body size and amount of fat.

In selecting the needles, the nurse should see that these are appropriate for the therapy

a) The bevel should be sharp and without hooks.
b) Needle size should be at smallest gauze appropriate for medications.
c) Needle length appropriate to the site and the person.
d) Needle should fit tightly to the syringe, so that the pressure of the liquid injected will not blow of the needle.

Articles : A tray containing

- Medication card
- Sterile medication (in ampoule/ vial)
- Syringes and needles of appropriate size
- Antiseptic swab
- Disposable gloves
- Kidney tray.

Preparation of the client and environment

- Identify the client correctly
- Explain the procedure and get the co-operation.
- Provide privacy with curtains.
- Place the client in a comfortable and relaxed position suitable for the type of injection. If the injections are given in the buttocks. Place the client in a prone position or a lateral position with the knees flexed. If the injections are given on the hand, let the client take a lying down position with the hands flexed at the elbow.

Dorsal gluteal site : Identify the greater trochanter of the femur and the posterior superior iliac spine. Draw an imaginary line between these 2 bony landmarks. Site will be the upper and outer quadrant or divide the buttocks into 4 regions by imaginary lines. Select the site at the upper and outer quadrant or divide the buttocks into 4 regions by imaginary lines. Select the site at the upper and outer quadrant or divide the buttocks into 4 regions by imaginary lines. Select the site at the upper and outer quadrant for the intramuscular injections.

Ventral gluteal site : Place the tip of the index finger on the anterior superior ilaiac spine of the client, the middle finger just below the iliac crest. The "V"shaped area is the area in which the injection can be given safely.

Vastus lateralis site : It is located on the lateral aspect of the thigh. It is the area between mid anterior thigh and mid lateral thigh, one hand's breadth from below the greater trochanter to one hand's breadth above knee.

Mid deltoid site : Locate the lower edge of the acromion process and form or rectangle, the deltoid area is used to inject very small quantities of non- irritating drugs.

Subcutaneous injections : It meets the following criteria

- The skin and underlying tissues are free of abnormalities.
- Not over bony prominences
- Free of large blood vessels and nerves.

The subcutaneous injections are usually given outer aspect of the upper arm, posterior chest wall below the scapula, anterior abdominal wall from below the breasts to the iliac crests, and the anterior and lateral aspect of the thigh.

Intradermal injections : They are given at the inner aspect of the lower arm, upper aspect of the anterior chest and upper aspect of the posterior chest.

Procedure	Purpose
Select the medication. Read the physician's order.	Observe "5" rights of the administration of medicine to ensure safety.
Wash hands	To practice asepsis
Prepare the medication	
Select appropriate syringe and needle.	
Check whether they are in good working order	To practice economy of time, material and effort
Obtain spirit swab	To promote asepsis
Calculate the dosage after medication	To prevent under dosage and over dosage of the medication.
Select the solvent	If the medication is in the powder form
Take the solvent in the syringe and introduce it into the vial or ampoule f medication	The medication should be in the form of solution; otherwise it will be lost in the container.
Mix the powder well, take out the required amount of solution in the syringe.	When mixed well, the solution will be clear without lumps.
Carry medication to the client	
Identify the client: Ask the client to repeat the name	Checks are essential to prevent errors.
Prepare the site for the injection Select the site.	
Clean the site with spirit swab See that the client is in a comfortable position. Inject the medication.	To remove the surface bacteria.
For intramuscular injections	***Take the following precautions***
Spread the tissue between the thumb and forefinger to make the skin taut.	The needle should belong to reach the muscles Insertion d withdrawal of the needle should be gentle and quick to minimize the pain.
Needle is inserted at a 90 angle, holding the syringe in the right hand, using a steady push on the needle.	Aspirate the piston to prevent accidental intramuscular deposition of the drug.

With the right hand, on the syringe, aspirate blood by pulling back the piston with the left hand.If blood appears in the syringe, quickly withdraw the needle.	The syringe and needle are held firmly throughout the procedure to minimize the tissue injury.
If no blood comes, give the medication slowly by pushing the piston.	Expel the air form the syringe by holding the syringe with needle vertical at the eye level taking care not to expel the drug.
Remove the needle quickly and massage the site for the quick absorption of drug.	Do not massage the area. Massaging the site spreads the medications into the tissues causing a strain. Diverting the attention of the conversations helps to achieve relaxation of the client.

Z-track technique

- Pull skin to one side, downward or laterally about a rich using non- dominant hand.
- Inject medication with air lock at 90 degree angle
- Withdraw the needle and release the skin.

Intravenous: Introducing a single dose of concentrated medication directly into the systemic circulation.

Articles

1. Disposable gloves
2. Medication in ampoule or vial.
3. Sterile needle
4. Antiseptic swab
5. Medication administration record.

Procedure:

Nursing action	Rationale
Check physician's order for name of medication, dosage and route of administration	Ensures safety and accuracy in medication administration.
Collect information necessary to administer drug safely including action, purpose, side effects, normal dose, nursing implication	
Check patient's history of drug allergies	Allergic .reaction could prove fatal
Wash hands and put gloves	Reduces transmission of infection
Check patient's identification by asking name and compare with medication card.	Ensures that drug administered to the correct patient
Explain procedure to the patient and encourage patient to report symptoms of discomfort at IV site	Inform patient to planned therapies

Method of giving intramuscular injection: To give subcutaneous injections:

- Length of the needle and angle of insertions for the subcutaneous injections. A 90 angle is normally used with or 5/8 inch needle for obese clients. A 45 is used with a needle ¾ inch long or longer for an average client or in a thin client.
- The technique of giving injection for hypodermic injections will be same as in IM injection except the following:

  1. Use only non- irritating medications.
  2. Use only a small quantity of medications
  3. Deposit the medications in a fold formed by picking up a layer of skin and fat
  4. Be sure to insert the needle beyond the thickness of the skin.

To give intra dermal injections : This method is used for skin tests to detect allergies. The skin is held tout, by grasping it under the forearm with the bevel of the needle facing up; insert the needle at an angle of 10-15 □ to the skin. The needle enters between the 2 layers of the skin- the bevel should be practically visible through the skin. Inject the medication slowly, to produce a wheel on the skin. A quantity of 0.01 ml of medication is injected intradermally.

Take out the needle quickly. Do not try to clean or massage the area.

After care of the client and articles

1. Inspect the area for bleeding. If bleeding take place apply pressure but do not massage.
2. Ask the client to take rest for 15 minutes to 1hour especially when the drug is expected to produce some form of allergic reaction in the client.
3. Ask the client to move the limbs to check whether any nerve injury has taken place
4. Watch for the signs and symptoms of allergic reactions
5. If the client develops numbness or weakness on walking. It may be due to nerve injury. Ask him to take rest, and inform the doctor.
6. If the client develops pain, redness, indurations etc., at the site of injection, apply warmth. Inspect the area for abscess formation. The nurse can prevent these complications using correct method of injection and by rotation of sites.
7. ***Used injection*:** syringes and needles are put in the bowl of water to prevent the piston tucked into the bevel of the syringe if the syringe is disposable, dispose the syringe and the needle must be burnt.
8. Clean with warm water and dry and keep in a proper place and clean all other articles and replace them in their proper place.
9. Wash hands

10. Record the procedure on the nurse's record. With date and time. Record the name of the medication, strength, amount administered the route of administration the time, the effect, any reactions that have taken place etc., if any allergic reactions took place after the injection, it has to be recorded in capital. Letters and in red ink, so that it could be easily visible to others and also for the future reference.

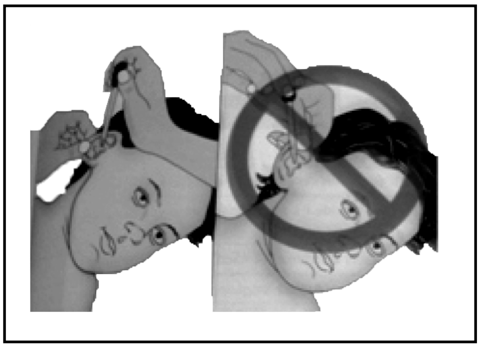
Instilling:

Purpose:

- To soften ear wax for removing it
- To reduce localized inflammation and destroy infective organisms in the external ear canal.
- To relieve pain
- To facilitate removal of foreign body

Articles

- Disposable gloves
- Cotton tipped applicators
- Medication bottle with dropper
- Cotton balls
- Kidney tray
- Bowl with normal saline



Nursing action	Rationale
Assess for allergy to medication	
Check medication order for name, dose, time, amount and ear to be treated	Reduces risk of medication errors
Assist patient to a side lying position to a side lying position with ear being treated upper most	
Clean meatus of ear canal. Using cotton tipped applicators use normal saline if necessary	Removes any discharge before instillation
Fill ear dropper partially with medication	
Straighten auditory canal. For an infant under 3 years pull pinna down and back. For an adult, pull pinna upward and backward	Straightening the canal can ensure solution to flow the entire length of the canal.
Instill correct number of drops and holding the dropper ½ inch above ear canal	Reduces risk of rupture of tympanic membrane
Instruct the patient to remain in side lying position for about 5 minutes	Prevents drop from escaping
Insert a small piece of cotton plug in the ear for 15-20 minutes	The cotton helps to retain medication
Replace medication and other articles	Reduces spread of micro organisms
Wash hands	
Document medication administration, name of medication, no. of drops administered and patient's response	
Hydrocortisone ear drops are contraindicated inpatients with fungal and viral infection in the ear	
Use sterile technique in administration of medication in case of perforation of the tympanic membrane.	

Inunctions: (topical applications):

It is the application of medication locally to the skin or mucous membranes in the form of lotion, ointments or liniments.

Purposes:

- To protect, soothed or soften surface areas.
- To warm an affected area and also for muscle relaxation.
- To relieve itching.

Articles:

A tray containing

- Medicine
- Kidney tray
- Gloves
- Adhesive tape
- Cotton ball
- Dressing pad

Procedure

Nursing action	Rationale
Explain the procedure	
Wash hands and put gloves on dominant hand	Prevents spread of micro organisms
Expose only the area where lotion is to be applied	
Clean the area with soap and water and pat dry it if required	
a. Powders: make sure that the skin surface is dry and sprinkle evenly over the area till a fine thin layer covers the skin	Moisture can cause the powder to stick and cause uneven distribution
b. Lotions: shake the container and put a small amount of lotion on a gauze dressing pad and apply it evenly in the direction of hair growth	Shaking the container ensures uniform distribution of the medication
c. Creams, ointments and pastes: take a small quantity of medication in gloved hand. Smear it evenly over skin using long strokes in the direction of hair growth.	Smearing medication evenly on the skin ensures uniform distribution
d. Aerosol spray: shake the container well or mix contents. Hold the container at 15-30cm away from the area and spray. Ensure teat spray does not enter into eyes or nose.	Aerosol spray if enters into eyes or nose can cause adverse effects.

Nursing action	Rationale
e. Transdermal patches: select clean dry area which is free of air. Take the patch holding it without touching the adhesive edges and apply it firmly using palm of hand and press if for 10second. Remove the patch at the appropriate time folding it with the medicated side in side. Observe the area carefully for changes in color, swelling, and appearance of a rash or other observable signs.	Applying the patch for longer time than required can cause increased rate of absorption than required

Intra abdominal : Administration of low molecular weight heparin (LMWH) requires special consideration. Use the right or left side of the abdomen at least 2 inches from the umbilicus and do not pinch the injection site. Administration LMWH in its prefilled syringe with the attached needle, and do not expel the air bubble in the syringe before giving the medication.

Intra thecal : Nurse administer intrathecal medications through a catheter placed in the subarachnoid space or one of the ventricles is often associated with long term medication administration through surgically implanted catheters. In most institutions a physician usually injects medications into intrathecal catheters.

Inhalation: Inhalation is the act of drawing in air, vapour or gas into the lungs. Drugs are inhaled either for a local effect (eg. Steam inhalations to relieve congestion in the respiratory tract).

Steam inhalation : Deep breathing of warm and moist air (vapour) into the lungs for local effect on the air passages or for a systemic effect.

Purposes

- To relieve the inflammation and congestion of the mucus membranes of the respiratory tract
- To soften thick tenacious mucus which helps in its expulsion from the respiratory tract
- To relieve spastic conditions of the larynx and bronchi
- To provide antiseptic action on the respiratory tract

Articles : A tray containing

- Towel
- Sputum cup with antiseptic solution
- Gauze piece
- Ounce glass
- Kidney tray
- Pillows
- Boiling water (160°F)
- Nelson's inhaler in a bowl
- Inhaler mouth piece
- Cotton ball
- Face towel
- Cardiac table
- Medication like tincture benzoin

Procedures:

Nursing action	Rationale
Check the physicians order and nursing care plan	
Explain the procedure to patient and ensure that patient has emptied his bowel and bladder	Helps in promoting relaxation
Warm the inhaler by pouring a little hot water into the inhaler and emptying it after one minute	Reduces loss of heat from inhaler during procedure.
Pour the required amount of inhalant into the inhaler and fill to a level below the spout with boiling water. The water should remain just below the spout	If the inhaler is filled up to the level of spout there is possibility of drawing water into the mouth when inhaling and cause scalds. If the spout is filled with water it will not act as on air inlet
Place sterile mouth piece and close the inhaler tightly. See that the mouth piece is in the opposite direction to the spout	This arrangement keeps the spout away from the patient when inhalations are taken in
Cover the mouth piece with a gauze piece and plug the spout with a cotton ball	Covering the mouth piece with a gauze piece will prevent burns of the lips. Cotton ball in the spout will prevent escape of steam
Place a towel around the inhaler and position it in the bowl	Insulates the inhaler and prevents heat loss
Switch off fan	
Position the patient in high fowlers or sitting position	
Place the apparatus conveniently in front of the patient on cardiac table with spout opposite to the patient. Remove the cotton plug and discard it into the paper bag.	Keeping the spout opposite to the patient reduces the chances of burns. Removing the cotton plug helps to open spout, so that it can act as an inlet for air.

Instruct the patient to place lips on the mouth piece, breathe out air through nose	Directing the steam out through the nostril relieves the congestion of the mucus membranes of the nostril
Continue the treatment for 15-20 minutes as long as patient gets the vapors	Help in effectiveness of the procedure
Remove inhaler from the patient after the stated time, wipe after persuasion from the patient's face	Enhances comfort of patient
Give chest physiotherapy and encourage patient to bring out sputum by coughing	
Instruct the patient to remain in the bed for 1-2 hours	Reduces chances of dizziness and effects of sudden temperature variation
Take articles to the utility room, empty the inhaler , clean the inside with alcohol to remove tincture benzoin	Cleaning of articles avoids contamination and cross infection
Record the procedure in nurses record with date, time, purpose and patient's response to the procedure	

Intravenous infusion: Introduction of a large amount of fluid into the vein continuously by a drip apparatus is called intravenous infusion.

Nursing action	Rationale
Check physician's order for name of medication, dosage and route of administration	Ensures safety and accuracy in medication administration
If drug is to be given through existing IV line, determine type of additive in IV solution if any	IV medication may not be compatible with additive
Assess condition of needle insertion site for signs of infiltration	Drugs should not be administered if site in edematous or inflamed
Check patient's history of drug allergies	IV bolus delivers drugs rapidly
Wash hands and wear gloves	Reduces transmission of infection

Prepare medication from vial or ampoule Check patient's identification by asking name and compare with medication card	Ensures that drug is administered to the correct patient
To give intravenous injection: Locate the vein and apply the tourniquet between the site chosen and the heart to obliterate the venous circulation. Ask the person to clench and unclench the hands. By pulling the skin tact, place the needle in line with the vein at the angle of 15° to 45°. Follow the course of the vein and insert the needle into the vein. When back flow of blood occurs into the syringe, release the tourniquet and inject the medication very slowly. Apply pressure at the site of the veinpuncturw after the needle is withdrawn.	
Dispose of uncapped needles and syringe in proper container	Prevents accidental needle sticks
Remove gloves and wash hands	Reduces transmission of microorganisms
Observe patient closely for adverse reactions during administration and for several minutes thereafter	IV medications act rapidly
Record drug, dose, route and time on medication forms	Timely documentation prevents medications errors
Report any adverse reactions to nurse in charge or physician	Adverse reactions to IV bolus may necessitate emergency measures

Intravenous injections: Intravenous injection is the introduction of the drug directly into a vein by means of syringe and needle.

Purposes

- If a very rapid effect is needed for e.g cardiac and respiratory stimulants, general anesthetics
- When the drug is given for its action in the blood stream or in the vessel.

- When the drug cannot be tolerated when given by other routes
- when it is desired to produce local clothing in the treatment of varicose veins
- When it is desired to introduce a drug into the circulation for diagnostic purpose. E.g., intravenous pyelogram
- Supply the body with food in the form of fluid.

Selection of veins

Veins usually selected for intravenous injections are cephalic or the median basalic at the inner aspect of the elbow or anyone of the veins of the lower forearm above the wrist.

The saphenous vein above the ankle is another point at which the injection may be given.

With the infants and small children the jugular, femoral and veins in the scalp are used.

Assessment

- Identify the patient with all details
- Check the doctor's order for the time of injection, type and dose of medicine etc.
- Get the instruction and help from senior sister
- Note the condition of the veins and decide the points to be punctured
- Find out the purpose of injection
- Check the details of medicines like name of the medicine, dosage, date of expiry, physical properties etc.

Articles required : A tray containing

- Tourniquet
- Methylated spirit or alcohol swab
- Adhesive plaster
- Sterile 5cc or 10cc syringe and needles
- The required medicine
- Kidney tray
- Small jar with sterile water
- Pair of scissors
- Cotton swabs
- File if drug is in ampoule

Procedure: Win the confidence and co- operation of the patient by proper explanation. Assemble the equipment to the bedside.

Nursing action	Rationale
Wash hands and wear gloves	Reduces transmission of infection
Place the patient in a comfortable position lying down with the arms extended and supported. Apply the tourniquet around the elbow or hold it firmly well enough to distend the vein.	For proper venipuncture
Clean the skin with the swab moistened with methylated spirit or with alcohol swab and discard it in the kidney tray	Prevent the transmission of infection
Take the drug in the ampoule or vial and make it ready to fill in the syringe	
Fill the syringe with medicine and introduce the needle into the vein after expelling the air. Puncture the vein and when the blood appears in the syringe release the tourniquet and then inject the drug slowly	To prevent entry of air into the blood vessels and causing air embolism To prevent infiltration
When the drug is finished place a piece of cotton or gauze over the site and withdraws the needle.	To prevent infection and oozing of blood
Ask the client to flex the arms for a minute or two. If oozing is present apply tincture benzoin dressing	
Make the client comfortable and tidy up the place	
Dispose the uncapped needles and syringe in proper containers	Prevents accidental needle sticks
Remove gloves and wash hands	Reduces transmission of micro organisms
Replace the articles	
Observe client closely for adverse reactions during administration and for several minutes thereafter	IV medications act rapidly and to identify and signs and symptoms anaphylactic shock
Record drug, dose, route and time of medication forms	Timely documentation prevents medication errors
Report any adverse reactions in charge or physician	To prevent further complications and to provide immediate care
It is better to have an assistant to apply and release the tourniquet or to hold the hand.	

Summary

- The safe and accurate administration of medication is one of the most important responsibilities of a nurse.
- The 5 rights ensures safety in giving drugs:

  1. Right client 2. Right drug 3. Right dose 4. Right time 5. Right method
- Oral medication administration includes buccal (check) and sublingual (under tongue)
- The syringes are made up of 2 parts. The outer part is called barrel and the important is called piston or plunger.
- The needle has 2 parts 1. Hub 2. Shaft
- Select the upper and outer quadrant for giving intramuscular injections
- Intradermal injections are used for skin tests to detect allergies.
- Inunction means application of medication locally to the skin or mucus membranes in the form of lotion, ointments or liniments.

QUESTIONS

I. Choose the correct answer:

1. The quantity of intradermal injection is

   a) 0.5ml b) 2ml c) 0.01-0.1ml d) 0.2ml
2. The purpose of steam inhalation is

   a) To reduce fever b) To relieve congestion in the respiratory tract

   c) To improve the circulation d) To maintain the hydration level.
3. The degree of giving intravenous injection is

   a) 10-20° degree b) 15-45 ° degree c) 45-60 ° degree d) 90° degree
4. Z- track technique is followed in

   a) Subcutaneous injection b) Intravenous injection

   c) Intramuscular injection d) Intrathecal injection
5. The degree of giving intramuscular injection is

   a) 90° degree b) 45 °degree c) 60 °degree d) 75° degree

II. Fill up the blanks

1. The application of ointment in the ski it is called as ___________
2. The subcutaneous injection is given at ___________
3. ___________ route of medicine is directly enter into the systemic circulation.

III. Short notes

1. Method of administering intradermal injections
2. Method of giving intramuscular injection
3. The purpose of articles needed for instilling

IV. Essay

1. Explain the procedures of steam inhalation.

9. TURNING SCHEDULE

Definition

Change the position of unconscious patient in bed frequently is called as turning schedule. The patient should turn and change positions in bed every 2 hours.

Purpose

- Turning in bed improves venous return
- Improves respiratory function
- Improves gastrointestinal function
- Improves peristalsis movement
- Prevents unrelieved pressure on skin
- Prevents bed sore.

Indications

- Turn the position of unconscious patients every 2 hours.
- Turn the patient who cannot able to move.
- Turn the patient who has fracture injury.
- Turn the patient who have traumatic injury.

Contraindications

- The patient should not be turned if the doctor's prescription does not allowed
- The patient should not be changed if they had pain in that position.
- The patient should not be changed if he had any discomfort in that position.

Review of procedure : Review the physicians' orders and nursing plan of care patient activity. Identify any movement limitations and the ability of the patient to assist with turning consult patient handling algorithm if available to plan appropriate approach to moving the patient.

- Gather any positioning aids or supports if necessary.
- Identify the patient. Explain the procedure to the patient
- Perform hand hygiene and put on gloves if necessary.
- Close the room door or curtains place the bed at an appropriate and comfortable working height.
- Adjust the head of the bed to a flat position or as low as the supports to be used for positioning within easy reach
- Lower the side rail nearest you if it has been raised if not already in place position a friction reducing sheet or drawsheet under the patient.
- Using the friction reducing sheet or drawsheet move the patient to the edge of the bed, opposite the side to which he or she will be turned. Raise side rail and move to the opposite side of the bed.

- Stand on the side of the bed toward which the patient is turning lower the side rail nearest you.
- Stand opposite the patient's center with your feet spread about shoulder with and with one foot ahead of the other. Tighten your gluteal and abdominal muscles and flex your knees. Use your leg muscles to do the pulling.
- If available activate the bed mechanisms to inflate the side of the bed opposite from where you are standing.
- Position your hands on the patient's for shoulder and hip and roll the patient toward you or you may use the friction reducing sheet or drawsheet to gently pull the patient over on his or her side.

- Use a pillow or other support behind the patients back. Pull the shoulder blade forward and out from under the patient.
- Make the patient comfortable and position in proper alignment using pillows or other supports under the leg and arm as needed. Readjust the pillow under the patients head. Elevate the head of the bed as needed for comfort.

Summary

- Change the position of unconscious patient in bed frequently is called as turning schedule.
- The position should turn every 2 hours
- The purpose of turning schedule is to prevent bedsore, prevents unrelieved pressure on skin.
- The patient should not be changed if he had any discomfort.

QUESTIONS

I. Choose the correct answer

1. Indication of turning schedule is

   a) Unconscious   b) Schizophrenia   c) Anemia   d) Leukemia

II. Fill up the blanks

1. The frequency of turning schedule is_______________.

III. Short notes

1. Define turning schedule , write the purposes of turning schedule
2. Indications and contraindications of turning schedule.

IV. Essay

1. Explain the steps of turning schedule.

10. MINOR WOUND DRESSING

Definition

Wound is a cut or break in the continuity of the skin. Cotton or gauze pieces are used to clean the wounds. The dressing of the wounds with dressing materials are called wound dressing.

Types of dressing

Dressings may vary by type of material and mode of application. They should be easy to apply comfortable and made up of materials that promote wound healing

- ***Gauze dressing***: are the commonest. Gauze is available in different textures and shapes (eg) in square, rectangle and rolls of various lengths.
- ***Non antiseptic dressings***: are sterile unmedieated dressings applied to a fresh wound to protect it from infection.
- ***Antiseptic dressings***: are impregnated with some medication and are applied to wounds already infected to limit the septic process.
- ***Wet dressings:*** are used in infected wounds to soften the discharge, promote drainage and also in wounds that require debridement. It is also used to supply heat to the tissues. Moist heat is more penetrating than dry heat. Therefore moist heat is more beneficial in localizing the infection in an area.

  For applying wet dressing the contact dressing layer is moistened to increase the gauze ability to collect exudates and wound debris and then apply a dry second layer of absorbent dressing. This method of application effectively cleanses infected and necrotic wounds.
- ***Pressure dressings***: when there is danger of bleeding or when there is oozing from the wounds a pressure dressing may be applied. This is a thick sterile pad made up of gauze or gauze and cellulose applied with a firm bandage, Elastoplasts or binder.
- ***Non- adherent gauze dressings***: such as TELFA are used to cover clean wounds. Telfa gauze has a shiny, non adherent surface that does not stick or incisions or wound opening but allows drainage to pass through to the softened gauze above.
- ***Self adhesive transparent film:*** it acts as a temporary second skin. This is ideal for small superficial wounds and wounds which do not require debridement.

Purposes:

- Protect the wounds from contamination with micro organisms
- Aid in hemeostasis
- Promote healing by absorbing drainage and debriding a wound
- Support the wound site with splint

- Prevent the client from visualizing the wound
- Promote thermal insulation to the wound surface
- Provide maintenance of high humidity between the wound and dressing
- Provide mental and physical comfort for the patient.

Articles	Purpose
A sterile tray containing	
Artery forceps- 1	To clean the wound
Dissecting forceps-2	
Scissors-1	For the debridement of the wound if necessary or to cut the gauze pieces to fit around the drainage tubes etc
Sinus forceps- 1	To open the sinus tract or to pack the sinus tract if necessary
Probe -1	
Small bowl- 1	To take the cleaning solutions
Safety pin-1	To fix the drain in case the drains are cut short.
Gloves, masks and gowns	To use when large wounds are dressed
Cotton balls, gauze pieces cotton pads etc as necessary	To clean and dress the wound
Slit or dressing towels	To create a sterile field around the wound
Un sterile tray containing:	
Cleaning solutions as necessary	To clean the wound and the surrounding skin area
Ointment and powders as ordered	To apply on the wound
Vaseline gauze in sterile container	To prevent the dressing adhering to the wound
Ribbon gauze in sterile containers	To pack a sinus tract or a penetrating wound
Swab sticks in sterile container	To apply the medications if necessary
Transfer forceps in a sterile container	To handle the sterile supplies
Bandages, binders, pins adhesive plaster and scissors	To fix the dressing in place
A large bowl with disinfect solution	To discard the used instruments
Kidney tray and paper bag	To collect the wastes
Mackintosh and towel	To protect the bed garments

Procedure

Steps of Procedure	Reason / Explanation
Tie the mask	To prevent wound contamination with droplets.
Wash hands thoroughly	To prevent cross infection.
Put on gown, gloves etc as necessary.	To ensure asepsis.
Open the sterile tray spread the sterile towel around the wound.	To create a sterile field around the wound.
Pick up a dissecting forceps and remove the dressings and put it in the paper bag. Discard the dissecting forceps in the bowl of lotion.	To prevent contamination of the hands with the soiled dressings.
Note the type and the amount on drainage present.	To prevent contaminating the hands of the nurse by the outside of the bottle.
Ask the assistant to pour small amount of cleaning solution into the bowl.	Cleaning should be done from the cleanest area to the less clean area wound line is considered cleaner than the surrounding area.
Clean the wound from the centre to periphery and discard the used swabs after each stroke.	
After thoroughly cleaning of the wound dry swabs using the same precautions.	To keep the wound as dry as possible.
Discard the forceps in the bowl of lotion. Apply medications if ordered.	To apply the ointment directly to the wound may be difficult, apply a small portion on the dressing that goes directly over the wound.
Apply the sterile dressing, apply the gauze pieces first and then the cotton pads.	Cotton placed directly onto the wound may stick on the wound the discharge dries.
Re in force the dressing on the dependent parts where the drainage may collect.	Reinforcing the dressing will prevent oozing of the drainage onto the bed of patient.
Remove the gloves and discard it into the bowl with lotion.	Gloves worn during the dressing will be highly contaminated.
Secure dressing with bandages or adhesive tapes.	

AFTER CARE OF THE PATIENT

- Help the patient to dress up and to take a comfortable position in the bed, change the bed garments if soiled with drainage.
- Replace the bed linen.
- Remove the mackintosh and towel.

  o Take all articles to the utility room. Discard the soiled dressing into a covered container and send for incineration. Remove the instruments and other articles from the disinfectant solution and clean them thoroughly. Dry them reset the tray and send for autoclaving. Replace all other articles to their proper places. Send the soiled linen to the laundry bag for washing.
- Wash hands.
- Record the procedure on the nurse's record with date and time. Record the condition of the wound, the type and amount of drainage condition of sutures etc. on the nurse record. Report to the surgeon any abnormalities found.
- Return to the bedside to assess the comfort of the patient special instruction in the care of wound is to be communicated to the patient.
- Ensure the cleanser of the patient and his surrounding.

SUMMARY

- Wound is a cut or break in the continuity of skin.
- Purpose of dressing is protecting the wound from contamination with micro-organisms.
- The types of dressing are 1) Gauze dressing (2) non-antiseptic dressing, 3) Antiseptic dressing, 4) wet dressing , 5) pressure dressing , 6) Non- adherent gauze dressing, 7) self adhesive transparent film.

QUESTIONS

I. Fill up the blanks

1. The sterile unmedicated dressing applied to a wound it is called as ___________
2. In non-adherent gauze dressing ______________________gauze are used to a cover clean wounds.
3. The wound should be cleansed from __________________ to ____________________

II. Short notes

1. Types of dressing.
2. Purpose of dressing.

III. Essay

1. Explain the dressing procedure.

11. NASOGASTRIC ASPIRATION

Definition: Aspiration of the stomach contents by introducing a Ryle's tube into the stomach and aspirating the stomach contents at different stages of digestion after giving a specific meal. It is also called as fractional test meal.

Purpose

- For diagnose of gastric condition (eg) presence of cancer cells and bacteria.
- To investigate the emptying capacity of the stomach.
- To investigate stomach secretions as hydrochloric acid. The results usually obtain in terms of

  Hyperchlorhydria Hypochlorhydria Achlorhydria

Indications:

- Patients who have gastric problems.
- Patients who have excess of gastric contents.
- Patients who have digestive problem.

Contra indications:

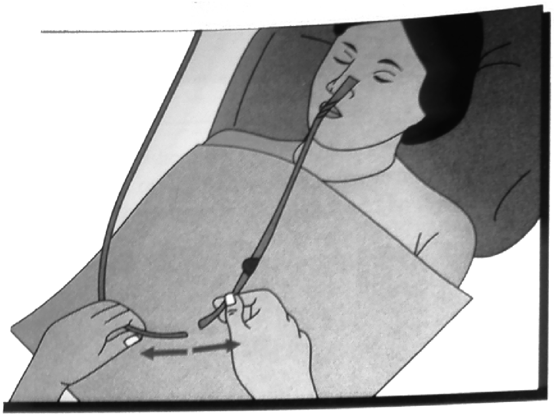
- Patients who have nasal ulcers.
- Patients who have surgical incision in the alimentary tract.
- Patients who have symptoms of nausea and vomiting.

Articles required

A tray containing:

- A Ryle's tube kept in a bowl of cold water after boiling.
- Liquid paraffin
- Rag pieces or collection swabs.
- 20 cc syringe in a syringe case or bowl.
- A pint measure with meal.
- Feeding cup with mouthwash.
- A glass for giving the meal.
- Sterile test tubes or bottles numbered consecutively on a rack two sterile bottles of 300 ml capacity one for resting juice and other for the residual juice.
- Kidney tray

- Mackintosh
- Sputum cup
- Adhesive plaster and scissors.
- Swab sticks
- Boric solution 2%.
- Screw clip.
- Paper and pen.



Steps of procedure:

- Get the co-operation and confidence of the patient by proper explanation of the test. Place the patient in a comfortable position proper up with pillows and provide privacy. Assemble the equipment to the bedside.
- Place the mackintosh and towel around the neck and shoulder and fix it with safety pins at the back. Clean the nostrils with swab sticks in the kidney tray. Wash hands.
- Take the Ryle's tube from the bowl and lubricate the tip with liquid paraffin. Before introducing the tube measure the length of the tube to inserted i.e. from the bridge of the nose to the ear lobe and from there to xiphoid bone that is at the level of the stomach and mark the tube to be inserted.
- Gently insert the tub e into the nostrils through the nasopharynx into the oesophagus by forward backward and downward movement.
- At this point while the tube is being directed into the stomach instruct the patient to breathe through the mouth and swallow frequently.

  Pass the tube to the length of the mark [40 to 60cm] up to the 2nd mark in the Ryles tube. Make sure that the tube is in the stomach. Take the 2oml syringe from the bowl and connect to the Ryles tube after expelling the air. Slowly withdraw all the resting juice and collect in the bottle and marked for it. If no fluid is aspirated pass the tube down further to 60 cm. place a swab around the tube and attach it by means of adhesive plaster conveniently to the patient.
- Place the rag piece over the end of the tube and clamp it with a screw clip. Give meal to the patient either by mouth or through the tube. Note the time. Write down the times of withdrawing the specimens. Make the patient comfortable and give some reading material to him.
- At the end of every 15 minutes withdraw about 5-10 ml of stomach contents and place it in the appropriate tubes or bottles.
- Continue this procedure until no material from the stomach can be obtained.

- When the required number of specimen have been taken or at the end of the stomach and place the whole residue in the bottle labeled residual juice. Withdraw the tube carefully and keep in the kidney tray.

After care of the patient

- Give mouth wash and remove the mackintosh and towel.
- Leave the patient comfortable.
- Allow the patient to have his food.
- Remove the articles to the utility room.
- Label the specimens correctly and send to the laboratory.
- Clean and boil the Ryle's tube for 5 minutes and hang it for dying. Clean and sterile the syringe and keep back it in place.

Summary

- Nasogastric aspiration is otherwise called fractional test meal.
- Before introducing the nasogastric tube measure the length of the tube from the bridge of the nose to the ear lobe to xiphoid bone.

QUESTIONS

I. Choose the correct answer

1. The insertion techniques of Ryles tube is

   a) Forward, backward and downward movement b) Forward, backward movement

   c) Backward movement only d) Forward and downward movement

2. Ryles tube is used for

   a) Aspiration b) Feeding. c) Giving medication d) All the above

II. Fill up the blanks

1. Liquid paraffin is used for ________________.
2. The insertion length of Ryle's tube is _______________.

III. Short notes

1. Write the articles and it purpose needed for nasogastric aspiration.
2. Contra indication for nasogastirc aspiration.

IV. Essay

1. Explain the procedure of N.G. aspiration and after care of the patients.

PRACTICAL - II

1. ASSESSMENT OF PREGNANT ABDOMEN

Definition: It is the procedure done during pregnancy to know the fetal condition.

Purpose

- To assess the gestational age, lie, presentation, position, attitude and engagement of the foetus.
- To assess the fetal well being.
- To detect abnormalities, mal presentations, mal position earlier.

Articles

Physical examination tray : A tray containing

- Inch tape
- Fetoscope.
- Stethoscope

Pre procedure

- Explain the procedure to the mother.
- Pregnant women should be relaxed during the procedure.
- Maintain privacy.
- Bladder to be emptied.
- Stand to right side of the mother.
- Warm hands before palpation.
- When the mother is having contraction, avoid FHR reading.
- Avoid palpation when contraction present.
- Collect and record the history of the mother.

Procedure

Steps	Rationale
1.Explain the procedure and purposes to the mother.	Proper explaining reduces anxiety.
2. Ask the mother to void.	Full bladder will cause pain and give false findings.
3. Provide privacy and comfortable position. Dorsal position with slightly flexed knees.	Abdominal muscles will be relaxed in knee flexed position.
4. Wash and warm the hands.	Chill hands may stimulate uterine contraction.

Inspection 1. Size of the uterus: See whether it is corresponding to the period of gestation. 2. Shape of the uterus: See whether it is longitudinally ovoid or transversely ovoid or globular. 3. Contour: • See for pendulous abdomen. • See for lightening. • See for fullness of flank. • Check height of fundus in centimeters and weeks. • Check the umbilicus whether dimpled or elevated. • Check fetal movements. • See for skin changes like striae gravidarum, linea nigra, cholasma, previous operational scar.	Primi with pendulous abdomen may be suspected for contacted pelvis. Lightening takes place after 38 wks. 38 wks shows fullness of flank indicates lightening has occurred. To know whether it corresponds to the period of gestation. Sometimes LSCS scar give way during uterine contraction leading to uterine rupture.
Palpation: Expose only the abdominal area. 1. Measure the height of the fundus in weeks. • Place the left hand on the upper most level of the fundus. • Divide the part between umbilicus and fundal area into two equal parts by keeping 2 fingers in between umbilicus and fundal area.	To elicit the normal fetal growth.
2. Measure height of fundus in centimeters. • Locate the upper border of the fundus by left hand and mark this point. • Measure the distance between the upper borders of the symphysis pubis up to the marked point by an inch tape in centimeters. • Measure abdominal girth (after 20 weeks). • Touch the scar and check for tenderness.	To assess if the growth of the fetus corresponds to period of gestation. Scar tenderness is a early sign of uterine rupture in case of previous caesarian section.
1. Fundal palpation: ▪ Always stand on the right side on the right side of eh woman facing the woman's head.	

▪ Use finger pads to palpate. ▪ Lace both hands on the sides of eh fundus with fingers held together and curving round the upper boarder of the uterus. ▪ Apply gentle pressure with the palmar surfaces of hand. Findings: Soft, non ballotable mass indicates buttocks of fetus at the fundal area. So presentation is cephalic, lie is longitudinal. 2. Lateral palpation: • Apply pressure with the palms of alternate hands, one hand to steady the uterus and push the fetus towards the examining hand. Walk the finger tips of both hands aver the abdomen from one side to other help-[s to locate the back.	
Findings: • In LOA (left occipito anterior) right side small part (like buds) felt indicates fetal limbs. • Left side Regular "C" shaped continuous curvature felt indicates fetal back Pelvic palpation: **.Grip I:** • Turn yourself, facing towards the woman's feet. • Grasp the side of the power uterine segment below the umbilical level between the palms of the hands. • Outstretched thumbs will meet at about umbilical level. • Direct the fingers inwards and downwards. Findings: • Hard regular defined mass felt cephalic presentation. • Two poles are felt. Along with limbs, sinciput felt. Along with back, occiput felt.	

• Sinciput felt higher than occiput the attitude would be complete flexion. **Grip II** • Face woman's head. • Without removing the hands, place the thumbs and fingers on the right side of the uterus then on the left side of the uterus. • Keep thumb and fingers of the right hand for enough to accommodate the fetal head. • Move the left hand to the upper border of the fundus and keep it there. • Ask her to take a deep breath. • Move the head in between the fingers. Findings: If it is moving - Non engaged head. If it is not moving - engaged head. Auscultation: • Ask her to stretch her legs. • Place foetoscope in the area between the umbilicus and iliac spine. • Count and record the FHR(fetal heart rate).	Stretching of the legs will enhance stretching of the abdominal wall.

After care:

- Make the mother lie comfortably.

Record:

- Record your findings in ac hart.
- Replace the articles.

Summary:

- Abdominal palpation is the procedure done during pregnancy to know the fetal condition.
- The purpose of this procedure is to assess the fetal wellbeing, to detect any abnormalities.
- It includes inspection, palpation, and auscultation.

QUESTIONS

I. Choose the best answer

1. During palpation the position of the mother is

   a) Left lat4eral position b) Dorsal recumbent position

   c) Dorsal position with knees slightly flexed d) none of the above.

2. Washing and warming the hands before palpation is to

   a) Reduce infection b) Uterine contraction

   c) Promote circulation d) Reduce discomfort.

II. Fill up the blanks

1. During lateral palpation, "C" shaped continuous curvature suggestive of __________
2. Fetal heart sound is heard in between __________

III. Write in detail

1. Abdominal palpation.

2. ANTHROPOMETRIC MEASUREMENT FOR UNDER FIVE CHILDREN

Definition

Quantitative expression of body mass, which indicates state of growth and health, is measured in kilograms or pounds using infant weighing scale.

Purposes

- To check whether an infant has adequate weight for age.
- To calculate food requirements.
- To calculate intravenous fluids and medications.
- To monitor whether an infant is gaining or loosing weight depending on disease condition.

Equipment

- Infant weighing scale-Infantometer
- Draw sheet
- Duster
- Paper and pencil for calculation

Procedure

- Note infants previous weight from record for last weighing
- Clean weighing scale with wet duster
- Place draw sheet on scale
- Balance scale to read zero
- Place the balance close to the wall to prevent the child from falling.
- Instruct mother to stand beside the scale. Undress the child before weighing and ensure that child remains still during the procedure.
- Mummify the infant with the same draw sheet and place infant on the scale.
- Place left hand over the infant without touching.
- Note weight.
- Lift the infant from the scale and help the mother to dress the infant.
- Check and compare previous weight.
- Difference of more than 100gms,needs to be clarified by rechecking the infants weight immediately.

- If the difference is still the same, it should be informed toward sister or the doctor concerned.
- If the weight is in pounds and ounces, it must be converted ti kilograms using conversion table.
- Document the weight.

Anthropometric Measurement : Anthropometric measurement includes Height, Weight, Head circumference, Chest circumference and Mid-arm circumference. These are the growth parameter assessment done by the registered nurse, a licensed practical nurse, or unlicensed assistive personnel who received education in the appropriate techniques for growth assessment.

Equipment Needed

- Small sheet, or paper drape to cover scale.
- Infant weighing scale.
- Toddler scale.
- Paper measuring tape.
- Flat surface, flat measuring board.
- Measuring device affixed to wall. (STADIOMETER) Height assessment rod attached to scale or an electronic length measurement device.

Measurement of length (infant / toddler) : Measurement of head, chest, length by placing the child on a paper covered surface,. Making the end points of the top of head and the heels of the feet, and measuring between the two given points gives the length of the child.

Measurement of head circumference

1. Place light drape or paper on flat surface.
2. Place infant/toddler in supine position or seated on paper drape.
3. Place tape measure over the most prominent point of the occiput , around the head just above the eyebrows and pinna. This is point of largest head circumference.

Measurement of chest circumference: Place tape measure underneath the back of baby and bring it to front measured at nipple line gives the chest circumference.

Measurement of mid arm circumference

1. Place the tape vertically, along the posterior aspect of the upper arm to the acromian process and the olecranon process.
2. Half measured is the midpoint.
3. Place the inch tape at the midpoint and measure around the arm. It gives the mid arm circumference.

Measurement of height and weight (preschooler)

Weight

1. Determine whether child is able to stand and balance on the scale.
2. Note child's previous weight, if available.
3. Place paper or drape on the scale.
4. Calibrate scale to “0” position.
5. Ask child to remove shoes and heavy clothing, children older than 24 months of age may be weighed while wearing light clothing.
6. Assist child to stand on scale.
7. Have child's hands at the sides of the body or hold belly , ask child to be still.
8. Note and record child's weight in kilograms.
9. Assist child to step down from scale or proceed to height assessment.
10. Document weight on child's growth and or related records specific to care location.

Height

1. Determine whether child is able to stand and balance on the scale or move the child to an area where measure is attached to wall.
2. Note child's previous height.
3. Ask child to remove shoes. It allows for accurate measurement of body height.
4. Assist child to stand on the scale or help the stand with the back touching the wall/ stadiometer. The child's heels, buttocks, shoulders and occipital should be in contact with the wall or height bar of the scale. The child should look straight ahead without tilting the head.
5. Place height rod and extend height assessment bar over the child's head.
6. Lower height rod to top of child's head.
7. With the examiner eye to eye with the child and with gentle traction applied to the jaw, note the height measurement and record child's height in centimeters.

8. Assist child to step down from scale.

9. Document height on child's growth chart and or related records specific to care location.

NORMAL MEASUREMENT

AGE GROUP	HEIGHT	WEIGHT
Infant 1-12 months) Toddler (1- 3yrs) Preschooler (3- 5 yrs)	45- 50 cm Increases 7.5 cm per year Birth height doubles at the age of 4 yrs	2.5- 3 kg Gains 2- 3 kg of weight per year Gains 2- 3 kg rep year
Age group	**Head circumference**	**Chest circumference**
New born Infant at the age of 1 yr to toddler 3 yrs	33- 35 cm Head and chest circumferences are equal	Less than head circumference

Mid arm circumference : During first year of life the circumference of upper arm of a healthy infant is 16cm remains constants until the age of five years.

13.6cm-16cm normal

12.5cm-13.5cm moderately malnourished

12.5cm and below severely malnourished

Summary

1. Anthropometric measurement is the assessment of baby height, weight head circumference, chest circumference and arm circumference
2. The purpose is for identifying Growth and development of babies.
3. It may indicate the babies well being or illness.
4. It is measured by the use of weigh machine, Infantometer , and stadiometer.
5. The measuring techniques and the procedures to follow to measure the anthropometric measurement be known by all the Nursing professionals.

QUESTIONS

I. Choose the correct answers

1 . Infantometer is used to measure the weight of the

a) Infant b) Toddler c) Pre school d) Schooler

2. Weight of the baby is measured with

a) Garments b) Removing of garments

c) With covering of towel d) with draping she

II. Fill in the blanks

1. New born baby weighed with the use of____________________

2. Normal head circumference of the baby ____________________

3. ____________ is the normal mid-arm circumferance

III. Short answers

1. Define anthropometric measurement?

2. Write the techniques used for assessing mid-arm circumference?

IV. Essay

1. Write elaborately about the anthropometric measurements?

3. RESTRAINTS

Definition

Restraints are devices used for partially or completely immobilizing infants for various medical and nursing procedures.

Purposes

1. To immobilize the infant.
2. To examine the specific body parts.
3. To perform medical and nursing procedures.

Types

1. Jacket Restraint
2. Mummy Restraint.
3. Elbow restraint.
4. Extremity restraint.
5. Abdominal restraint.
6. Crib with dome.

Jacket restraint

The jacket is put on with the strings in the back, so that the child cannot reach them. Instead of using a jacket restraint to prevent a child from climbing over a crib rail, an enclosed type of crib should be used. The danger in the use of jacket restraint is that of strangulation through pressure of a restraint that has slipped out of place and encircled a child's neck.

Mummy restraint

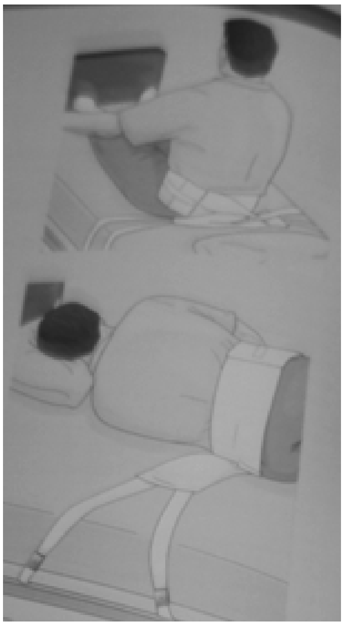
One corner of eh blanket is folded. The infant is placed on the blanket with head and neck at the edge of the fold. One side of blanket is to be pulled firmly and to be pulled firmly and tucked over the opposite shoulder. This is to be repeated on the other side. The extremities are to be covered properly and secured.

Alternative method of mummy restraint to examine the chest and abdomen

Pull the blanket firmly over both arms and tuck it under the arms. Wrap the leg in the remaining portion of the blanket and secure it.

Elbow restraint

The elbow restraint is made of a double piece of muslin or other string material with pocket sewn into which tongue blades are inserted. The tongue blades should be long enough to reach from the axilla till the wrist, so that the elbow cannot be bent. The



Abdominal restraint

It must not be applied too tightly that it inhibits the respiratory movements. The most significant point to be remembered in the use of any restraint is the degree of entanglement of the child in the strings resulting in possible suffocation or impairment of circulation, if it is tied to the frame of the crib. It is important therefore, that the restraints be applied correctly and that the child be observed frequently when such restraints are used.

Crib with dome

If an infant or toddler is capable of climbing over the crib sides, a crib net or a plastic dome may be used to keep the child safely in the crib. A crib net should be applied snugly over the top and sides of the crib and tied to the frame. The knots used must be of the type that can be untied quickly in case of emergency. Tongue blades hat are too long should not be used because of the danger of injury to axilla.

Extremity restraint

One of the extremity restraint is the clove hitch restraint. The equipment needed are; a strip of gauze bandage 2 inches wide and ½ yard long, cotton padding around the gauze, cut into 2 inches wide long enough to encircle the infants wrist or ankle. to apply the restraint, spread the gauze strips on the bed with one end towards the nearer side of the bed. In the middle of the strip make a figure of eight. Place padding gauze around the infant's wrist or ankle as necessary. This may be used to immobilize one or more extremities.

Summary

1. Restraints are devices used for partially or completely mobilizing infants for various medical and nursing procedures.
2. There are various types of restraints are being used.
3. The types of restraints are jacket restraints, mummy restraints, elbow restraints, extremity restraints, abdominal restraints, and crib with dome restraints.

QUESTIONS

I. Choose the best answer

1. Jacket restraints is applied with

   a) Strings b) Splints c) Both a and b d) None of the above

2. Mummy restraints is used to _____________the body

   a) Visualize b) Cover c) Both a & b d) None of the above

II. Fill up the blanks

1. Padding gauze applied around the infants _______ or _______ in the extremity restraints.
2. The knot used in the frame of crib with dome restraint must be _______ .

III. Short notes

1. Purposes of restraints
2. Principles of restraints.

IV. Write in detail

1. Explain about restraints.

4. PREPARATION OF BALANCED DIET

Introduction

According to WHO health is the state of complete physical, mental, social well being and not merely the absence of disease or infirmity. To maintain good health ingesting a diet containing the essential nutrients in correct amounts is very important.

Balanced diet is one which contains different types of foods in such quantities and proportion so that the need for calories, proteins, minerals, vitamins and other nutrients in adequately met in a small provision is made for extra nutrients to with stand duration of leanness.

Factors

Age, sex, physical work, physiological stress, pregnancy and lactation.

Five groups

- Cereals, grains & products
- Pulses and legumes
- Milk and milk products
- Fruits and vegetables
- Fats and sugar

Points to keep in the mind while planning menu:

1. Energy derived from cereals should be not more than 75%
2. Whole grain cereals, parboiled grains or malted grains give higher nutritive value
3. It is better to include 2 cereals is one meal like rice and wheat
4. Flour should not be sieved for chapatti as it will reduce bran content
5. One serving of cereal is 25g. a day's menu may require 12-14 servings.
6. Minimum ratio of cereals proteins to pulse protein should be 4% in terms of the grains it will be 8 parts of cereals and one part of pulses.
7. One serving of pulse is 25g. 2 to 3 servings should be taken.
8. One serving of vegetables is 75g green leafy vegetables can be taken more than one serving if fruit is not included in the diet.
9. It is better to serve the fruit raw without much cooking or taking juice out of it. Everyday diet should contain atleast one medium size fruit.
10. There should be a minimum milk of 100ml/ day one to 2 glasses of milk or curd should be included in balanced diet
11. Energy derived from oils or fats is 15-20% of total calories and 5% from sugar and jaggery.
12. One egg weighs around 40g. This can be served along with cereal or pulses to improve the quality of protein. Instead, one serving of poultry/ fish can also be included in the diet.

13. Inclusion of salads not only help in meeting the vitamin requirements but the meals would be attractive and have high satiety value, due to the fiber content.
14. Fried foods cannot be planned if oil allowance is less or in low calorie diets.
15. One third of nutritional requirement atleast calories, protein should be met by lunch's dinner.
16. If possible meals should be planned for served days.
17. Usually the number of meals would be four and for every young children and diseases number of meals can be more.
18. Ideally each meal should consist of all the 5 food groups.
19. For quick calculations average value of calories and proteins from the same group can be taken.

Principles of planning a meal

- ✓ **Meeting nutritional requirement**: a good menu is one which will not only provide adequate calories, fat and protein but also minerals, vitamins essential for the physical wellbeing of each member of a family.
- ✓ **Meal pattern must fulfill family needs**: a family meal should cater to the needs of the different members.
- ✓ **Meal planning should save time and energy:** planning of meals should be done in such a way, that the recipes should be simple and nutrition. By using pressure cooker, time and energy can be saved.
- ✓ **Economic consideration**: any meals if do not satisfy the budget of the family, cannot be put into practice. The cost may be reduced by using the 1. Seasonal foods 2. Bulk purchasing 3. Substituting greens for fruits 4. Combinations of foods.
- ✓ **Meal plan should give maximum nutrients:** losses of nutrients delivering, procuring, cooking should be minimized. Sprouted grains, malted cereals, fermented foods enhanced nutritive value.
- ✓ **Consideration for individual likes and dislikes:** meal should plan according to the individual preferences likes vegetarian or non- vegetarian. If a person does not like particular greens, it can be tried in a different form or substituted by equqlly nourishing food.
- ✓ **Planned meals should provide variety:** if the meals are monotonous it is not consumed. Variety can be introduced in colour, texture and taste.
- ✓ **Meals should give satiety:** each meal should have some amount of fat, protein and fiber to get satiety. Meals should be planned in such a way that intervals between the meals is also considered.

	Man			Woman		
	Sedentary	**Moderate**	**Heavy**	**Sedentary**	**Moderate**	**Heavy**
Energy kcal	2425	2875	3800	1875	2225	2575
Protein	1g/kg of body weight					
Calcium	400	400	400	400	400	400
Iron	28	28	28	28	30	30
Retinol	600	600	600	600	600	600
Betacarotene	2400	2400	2400	2400	2400	2400
Riboflavin	1.4	1.6	1.9	1.1	1.3	1.5
Ascorbic acid	40	40	40	40	40	40
Folic acid	100	100	100	100	100	100
B12	1	1	1	1	1	1

Fat: 20% energy is usually derived from fat.

Minerals: calcium requirement can be met by taking 200ml of milk. Iron requirement is 2g is higher than man.

Vitamins: b vitamin requirement is based on calorie requirement (0.5g of thiamine, 0.6g of riboflavin, 6.6mg of niacin per 1000 cal). Hence the requirement is nurse for heavy worker. Vitamin-20mg is sufficient but the 50% is lost in cooking. Hence the requirement is 40g/day.

Low cost balanced diet (sedentary man)

Ingredients	Amount (gms)
Cereals	460
Pulses	40
Leafy vegetables	50
Other vegetables	60
Roots & tubers	50
Milk	150
Oil and fat	40
Sugar and jiggery	30

Suggested low cost recipes:

- Green dhal/ kootu
- Ragi adai/ chapatti with greens
- Dry fish
- Sprouted gram
- Fermented food (idli)

Summary: 5 food groups are there:

- Cereals grains and products, pulses and legumes, milk and milk products, fruits and vegetables, fats and sugar.
- Minimum ratio of cereal protein to pulse protein should be 4:1
- Everyday diet should contain atleast one medium size fruit
- Each meal should consist of all the five food groups
- Good menu is one which will not only provide adequate calories, fat and proteins but also minerals, vitamins essential for the physical . ideally each should consist of all the 5 food groups.
- A growing adolescent boy may need rich food to satisfy his appetite, where as a young child may require soft and bland diet. Pregnant women require more greens in the diet.
- The cost of meals can be reduced by using a) seasonal foods, b) by bulk purchasing, c) substituting greens for fruits, d. combination of foods like cereals and pulses.

QUESTIONS

I. Fill up the blanks

1. Energy derived from oils__________
2. The energy requirement for sedentary worker__________
3. The iron requirement for women__________
4. RDA required for the 1kg of body weight __________
5. Iron content foods are __________

II. Short notes

1. Define balanced diet and what are all the factors to be considered while planning a balanced diet?
2. List out the low cost balanced diet?

III. Essay

1. Explain the principles of planning a meal?

5. PREPARATION OF DIET FOR SICK

Introduction: Diet is an important as medicine in the treatment of diseases. A modification in the diet or in the nutrients can cure certain diseases e.g., a patient suffering from peptic ulcer needs a bland diet for this recovery. A salt free diet can reduce the blood pressure in a patient with hypertension.

For everyone, eating food is an employment. When the person is ill. The food intake becomes a problem.

Liquid diet : Liquid diet must be used for patients who are unable to take or tolerate solid food. It consists of clear fluids and full fluid diet.

Clear fluid : Clear fluids are used when there is a marked intolerance to foods and roughage. These include clear tea, black coffee, clear soups, whey water strained fruit juices, soda water and other aerated beverages.

Clear tea : Have water ready for boiling. Do not use water, which has been boiling for sometime as it spoils the flavor. When the water starts to boil pour a little into the teapot to warm it.

Empty out this water and put the tea in to the teapot pour the boiling water over the tea and allow standing for 3 to 5 minutes. Strain and pour. Dilute with hot water if desired and add a few drops of time or lemon juice and sugar to taste.

Black coffee: One heaped table spoon of pure coffee powder

Freshly boiled water 300ml.

Heat the coffee jug thoroughly. Put the coffee powder into the jug. Pour boiling water and allow to stand near the fire for 10 minutes. Strain and serve as black coffee with sugar if desired.

Clear soup: The basis of clear soups is meat stock. To make stock allow two pints of water to each pound of bones or meat. Chop the bones and cut of the meat, then put into cold water and bring to simmering point. If a little salt is added if helps the scum to rise. Simmer the stock for a minimum of 2-3 hours removing the scum as it rises. Allow cooling thoroughly, strain through fine muslin to remove the fat and solid matter.

The stock may be used as it is for soup, or simmered again with diced vegetables to add other flavours. Strain and serve very hot.

Fruit juice : Fruit juice may be prepared from fresh fruit, or by dilution of commercially prepared fruit squashes. Remove the juice from citrus fruit by means of a squeezer, strainer, dilute with water and add sugar or glucose to taste.

Fruits which stew well. E.g apple, tomatoes may be stewed with a little water until pulpy, then strained through muslin. Add water and sugar or glucose to taste.

Raw tomato juice : Select ripe, juicy tomatoes. Pour boiling water over the tomatoes and left stand for 2 minutes to loosen the skin. Remove skin, mash the tomatoes and press thorough a strainer as much of the juice and soft part as possible. Add salt and pepper to taste. Some may prefer sugar.

Whey : To 500 ml of fresh milk warmed to blood heat (37^0c) add one to two teaspoon of rennet. Set it aside in a warm place for a quarter of an hour. Then break up the curd thoroughly by stirring with a fork. Let it stand for 15 minutes, then strain the whey through the muslin and bring it to the boiling point. Curds may be used in place of rennet.

Lime whey : To 500 ml of fresh milk add 4 table spoon of lime juice. Boil without stirring until the curd separate. Strain through several thickness of gauzes and add sugar. Cool and serve.

Barley water:

- 1 tablespoon of barley flour.
- 500 ml of boiling water.
- 2 tablespoon of cool water.
- Salt.

Mix the flour to a smooth paste with cold water gradually add the boiling water stirring all the time. Boil about 30 minutes, add salt and one teaspoon of lime juice and strain before use.

Full fluid diet:

Tea and coffee: Tea and coffee should be prepared as for clear fluids and served hot with the addition of milk or cream and sugar or glucose to taste.

Egg flips or egg nog : Beat an egg thoroughly (yolk not used. albumin water may be used) and add 250 ml of milk. Stir well and strain before serving. This may be flavored with sugar, or lemon juice. If desired it may be added to coffee or tea.

Dhal soup:

- ½ cup of dhal
- 2 cups of water
- 1 large onion
- Salt

Grind the Dhal finely. Chop and fry the onion, mix all the ingredients and boil for 20 -30 minutes.

Vegetable soup:

- ¼ cup diced vegetables
- 2 cups of meat stock
- Small pat butter (about 1 teaspoon)
- Salt and pepper.

Prepare and dice the vegetables. Place in saucepan and sauté in melted butter for a few minutes. Add the boiling stock, salt and pepper to taste and boil gently until the vegetables are tender. Mix 15 gm flour with a little cold stock, add to the boiling stock, stirring continuously, and

boil until the soup is thickened. If desired, the vegetables may be rubbed through a strainer before thickening the soup.

Light cereal preparation

Double boiled rice:

- o 2 tablespoons of rice
- o Pinch of salt
- o 240 ml of milk, water or milk and water mixed.

Wash the rice and add it to the milk. Simmer gently for 1 to 1/ 2hours, till it is reduced to a pulpy mass. Add sugar if desired before serving. Cooking in a double boiler more easily regulated than in an ordinary saucepan.

Ragi conjee: Ragi, after being ground, should be shifted two or three times through muslin one tablespoon of ragi flour should be mixed till smooth with a little cold water, then gradually add 300ml of boiling water with a pinch of salt and boil for 15 minutes. If prepared half milk and half water may be used.

Arrowroot conjee

- 2 teaspoons of arrowroot
- 125 ml of boiling water
- Sugar to taste
- 1 tablespoon of cold water
- 125 ml of hot milk
- A pinch of salt.

Mix the arrowroot to a smooth paste with the cold water and add the boiling water gradually. Boil for 10 minutes, stirring constantly, then add milk and salt and boil for 10 minutes more. Add sugar if desired before serving.

Barley conjee

- 1 tablespoon of prepared barley flour
- 2 tablespoons of cold water
- ¼ teaspoon of salt
- 125 ml of warm milk
- 125 ml of boiling water

Mix barley flour to a smooth paste with cold water, add he boiling water gradually stirring constantly, and boil for 30 minutes add milk and salt, and bring to the boiling point.

Soft diet

- This is one of the most frequently used routine diets. It bridges gap between acute illness and convalescence. It is used in acute infections.
- Made of simple foods
- Easily digestible.
- Contains no fiber
- Near to normal diet
- No highly spiced or seasoned

It is nutritionally adequate when planned on the basis of normal diet.

Light puddings

Fruit jelly

- 500 ml of juice
- 100 gm of sugar
- 20 gm of powdered gelatin

Put all ingredients into a pan and warm gently, stirring all the time. Turn into a rinsed mould and allow setting, preferably in a refrigerator. Keep cold until served.

Corn flour pudding

- 500 ml milk
- Thin strip lime or orange peel or other flouring
- 30 gm sugar
- 15 gm custard powder
- 30 gm corn flour

Pour about three quarters of eh milk into a saucepan, add the orange rind or other flavoring, sugar and a pinch of salt and bring to the boil slowly. Mix the corn flour and custard powder together with the remaining cold milk. Pour the boiling milk into the mixed custard and corn flour, stirring well. Return to the pan and boil for a few minutes until it thickens. Pour into individual moulds and allow setting until cold.

Summary

1. Diet is important as medicine in the treatment of diseases.
2. For everyone, eating food is an employment, when person is ill.
3. Liquid diet must be used for patients who are unable to take or tolerate solid foods.
4. Fruit juice may be prepared from fresh fruits.
5. Tea and coffee should be prepared as far clear fluids and served hot with the addition of milk or cream and sugar or glucose to taste.
6. Soft diet is one of the most frequently used routine diets. It bridges gap between acute illness and convalescence.

QUESTIONS

I. Write short notes

1. Preparation of whey water.
2. Preparation of vegetable soup.
3. Preparation of corn flour puddings.

6. ANTE-NATAL EXERCISES

Objectives

1. To stimulate the circulation
2. To strengthen the pelvic and perineal muscles
3. To stretch tight inner thigh muscles for greater comfort in stirrups.
4. To reduce fatigue, encourage relaxation during pregnancy and labour.
5. To promote physical comfort and correct posture.

Ante-natal exercises

1. Good Posture

   Stand with your feet about 10 inches from a wall and press the back of the head, spine, shoulders, hips and thighs against the wall. Tuck the buttocks in at the back, contract abdominal muscles to flatten the back, and straighten the neck, throw your shoulder girdle at the back and the arms hanging straight on your sides. Bend the knees slightly and press the foot on the floor. Wrigle the toes for few minutes.

2. Pelvic tilting or (rocking):

   In half lying position, well supported with pillows, knees bent and feet flat. Place one hand under the back and other on the top of the abdomen. Tighten the abdominals and buttocks and press the back down on to the underneath hand. Breathe normally, hold for up to 10 seconds then relax. Repeat up to 10 times. Pelvic tilting can also be performed while sitting, standing or kneeling.

3. Transverse exercise:

   Sit comfortably or kneel on all fours with a level spine. Breathe in doubt, and then gently pull in the lower part of the abdomen below the umbilicus keeping the spine still and breathing normally. Hold up to 10 seconds then relaxes gently. Repeat up to 10 times.

4. Pelvic floor exercises:

   Sit, stand or half lie with legs slightly apart. Close and draw up around the back passage as though preventing a bowel action then repeat around the front two passages as though preventing the flow of urine. Draw up inside and hold for as long as possible up to 10 seconds, breathing normally, then relax. Repeat up to 10 times.

5. Foot and leg exercises:

   Sit or half lie with legs supported. Bend and stretch the ankles at least 12 times. Circle both feet at the ankles at least 12 times. Circle both feet at the ankle at least 20 times in each direction. Bend both knees, hold for a count of four, and then relax. Repeat 12 times.

Summary

1. The objectives of antenatal exercises are:
   - To stimulate the circulation
   - To strengthen the pelvic and perineal muscles
   - To stretch tight inner thigh muscles for greater comfort in stirrups.
   - To reduce fatigue, encourage relaxation during pregnancy and labour.
   - To promote physical comfort and correct posture .
2. The common exercises are pelvic tilting, Transverse exercise, Pelvic floor exercises, Foot and leg exercises:

QUESTIONS

I. Choose the correct answer

1. The antenatal exercise helps in

   a) Stimulate circulation　　b) Stimulate labor

   c) Stimulate uterine contraction　　d) All of the above

2. In pelvic floor exercise the breath should be held for

   a) 5 seconds　　b) 10 seconds

   c) 15 seconds　　d) 20 seconds

II. Fill up the blanks

1. Pelvic tilting can be done while ___________
2. In foot exercise the leg should be held for___________

III. Write in detail

1. Antenatal exercises.

7. POST NATAL EXERCISES

Objectives

- To improve the muscle tone which have stretched during pregnancy and delivery, the perineal and abdominal muscles.
- To teach about correct posture to be maintained, while getting up from the bed.

Postnatal exercises include

1. Circulating Exercises:

   Foot and leg exercises must be performed, to improve circulation, reduce oedema, and prevent deep vein thrombosis. If edema is present, the foot of the bed may be raised slightly.

2. Pelvic Floor Exercises:

   As explained in the antenatal exercises i.e., sit and stand or half lie with legs slightly apart. Close and draw up around the back passage as though preventing and bowel action. Then repeat around the front 2 passages as though preventing the flow of urine. Draw up inside and hold for as long as possible up to 10 seconds, breathing normally, then relax. Repeat up to 10 times.

3. Abdominal Exercises:

   This include abdominal breathing, head and shoulder raising, leg raising, pelvic tilt, knee rolling, hip hitching and sit ups.

4. Abdominal Breathing:

   Mother is taught to take deep breathe, raising her abdominal wall and exhale slowly to ensure that the exercise is being done correctly place one hand on the chest and one on the abdomen. When inhaling, the hand on the abdomen should be raised and the hand on the chest should be remain stationary Repeat the exercise five times.

5. Head And Shoulder Raising:

   On the second post partum day, lie flat without pillow and raise head until the chin is touching the chest. On the third post partum day, raise both hand and shoulders and lower them slowly. Increases gradually until able to do ten times.

6. Leg Raising:

   The exercise may begin on the 7th post partum day. Lying down on the floor with no pillows under the head, point toe and slowly raise one leg keeping the knee straight. Lower the leg slowly, gradually increase to 10 times each leg

7. Pelvic Tilting or Rocking:

   Lie flat on the floor with the knees bent and feet flat. Inhale and while exhaling, flatten the back hard against the floor so that there is no space between the back and the floor. While

doing this, tighten the abdomen muscles and the muscles of the back. Inhale normally, hold breathe for up to 10 seconds and then relax. Repeat up to 10 times.

8. Knee Rolling:

In back lying with knees bent, pull in the abdomen and roll both knees to one side, keeping the shoulders flat. Return the knees to upright position and relax the abdomen. Pull in again both knees to the other side. Repeat up to 10 times.

9. Hip Hitching:

In back lying, with one knee bent and other knee straight. Slide the heel of the straight leg downwards thus lengthening the leg. Shorten the same leg by drawing the hip towards the ribs on the same side. Repeat up to 10 times. Change to the opposite side and rotate

Summary

1. The objective of postnatal exercises are:

- To improve the muscle tone which have stretched during pregnancy and delivery, the perineal and abdominal muscles.
- To teach about correct posture to be maintained, while getting up from the bed.

2. The various post natal exercises are Circulating Exercises, Pelvic Floor Exercises, Abdominal Exercises, Abdominal Breathing, Leg Raising, Pelvic Tilting or Rocking, Knee Rolling, Hip Hitching.

QUESTIONS

I. Choose the best answer

1. The postnatal exercises helps in

   a). Improve muscle tone b) Correct posture c) Both a & b d) None of the above.

2. Leg raising exercises can be begun at

   a) 5th postpartum day b) 6th postpartum day

   c) 7th postpartum day d) 8th postpartum day

II. Fill up the blanks

1. Circulating exercise helps to ______________
2. Head and shoulder raising exercise should be started on ______________

III. Write in detail

1. Postnatal exercises.

8. CORD CARE

Definition

It is the cleaning of the umbilical cord and applying medicine.

Purposes

1. To clean the cord and prevent infection setting in to the body.
2. To inspect the cord to check for sign of infection.

Articles

1. Cotton swabs
2. Spirit
3. Medicine as per standing order
4. Waste paper bag

Procedure

1. Arrange the necessary articles near to the babys presence.
2. Inspect the cord for signs of infection and pus formation to determine further action.
3. Clean the cord stump with spirit and apply cord medicine to prevent getting infection to the cord.
4. Discard the used cotton balls and wash the hands and replace the articles.
5. Record the procedure, observation of the cord

Summary

1. It is the cleaning of the umbilical cord and applying medicine.
2. The purpose of cord care are:
   - To clean the cord and prevent infection setting in to the body.
   - To inspect the cord to check for sign of infection.

QUESTIONS

I. Write in detail

1. Cord care

9. BREAST CARE

Definition

Breast care is the hygiene provided to prevent breast infection and to promote safe lactation.

Purpose:

- To promote lactation.
- To prevent infection.
- To examine the breast fro cracked nipples, depressed nipples and enlargement.
- To teach the mother about hygiene of the breast.

Articles required

- Screen
- Tray containing

1. Big bowl - 1
2. Jug with warm water
3. Sponge clothes 1
4. Towel small - 1
5. Small bowl conting gauze pieces
6. Kidney tray

Steps	Rational
1. Explain the procedure to the mother	Enhances co operation and reduce fear and anxiety.
2. Assemble the articles at the right side of the mother.	Prevent wasting of time and energy.
3.Screen the bed	Provide privacy.
4.Wash hands.	Prevent infection.
5.Expose the mother's breast and put the towel below the breast.	
6. Examine the breast for cracked nipple / depressed nipple/ engorgement.	
7. Clean the breast from the areola to the nipple with water in circular motion (Hoffman's method).	Removes dirt enhances blood circulation.
8.Dry the breast.	Bacteria may reproduce in the moist area.
9. Cover the clean breast with clean towel.	Provides security to the mother.
10.Expose and clean the other breast as above.	
11.Wash and replace the articles.	Records are legal documents.
12. Record the procedure.	

Procedure

Assisting with breast feeding

Definition : Assisting a mother to feed at breast by using approriaste technique.

Purposes

- To assist mother to breast feed her child.
- To educate an importance of breast feeding and teach appropriate technique.
- To create positive attitude towards breast feeding.
- To help baby receive all benefits of breast feeding.

Equipments:

1. Bowl with luke warm water.
2. Kidney tray.
3. Few rag pieces.
4. Bath towel.

Procedure

1. Make sure that mother has taken bath.
2. Instruct her to wash hands before feeding.
3. Instruct mother to keep breast and nipples clean after each feeding.
4. Assist her in cleaning of breast if necessary.

   a) First clean nipple area with rag piece and then clean breast with luke warm water.

   b) Clean one breast at a time.
5. Change baby's soiled , wet linen before feed.
6. Assist mother to assure comfortable position (sitting or lying), provide adequate support to back.
7. Assist mother to place baby at the level of the breast.
8. Assist mother to place baby at her angle of elbow and support the baby with same hand.
9. Assist mother to compress the breast with the thumb on top and fingers underneath the areola.
10. Instruct mother to slightly touch the baby's lower lip with the nipple, stimulating the mouth to open.
11. When the mouth is open, assist mother to pull the baby to the nipple and ensure that the baby's mouth covers the nipple and an areola radius of 2-3 cm all around the nipple.

12. Make sure that baby's nose does not get pressed against mothers breast by making mother support breast with her index and middle finger.

13. Allow baby to feed at each breast for 10 20 minutes.

14. Arouse baby in between feeds by stroking sole of feet or ear lobe.

15. Help mother to stop feed and break suction by placing her fingers in corner by baby's mouth and keeping it there until the nipple is completely out of the baby's mouth.

16. Advise mother to burp baby after feeding by placing baby in upright sitting position on lap and by gently tapping baby's back or shoulder.

17. Place baby in cradle in left lateral position.

18. Document time of feed, baby's condition, sucking ability and any problems related to condition of breast and nipple.

19. Replace equipments.

QUESTIONS

I. Choose the best answer

1. Breast care will promote

   a) Lactation / hygiene   b) enlargement of the breast

   c) Circulation   d) all of the above.

2. Clean the breast from the

   a) Areola to the nipple   b) Nipples to the areola

   c) Simultaneously both surfaces.   d) One of the above

II. Write in detail

1. Breast care

10. PERINEAL CARE

Definition

Cleaning of the perineum to minimize the occurrence of infection before, during and after delivery.

Purposes

1. To minimize infection.
2. To visualize the episiotomy area for REEDA (Redness, Edema, Ecchymoses, Discharge and Approximation).

Points to remember

1. Always go from a cleaner area to less cleaner area.
2. Never expose the mo0ther unnecessarily.
3. Be careful and use antiseptic lotion with correct concentration.

Articles

Unsterile tray containing

1. Savlon 2% solution (2 ml in 100 ml of water in jar)
2. Spirit.
3. Betadine.
4. Kidney tray with lining.
5. Draping sheet.
6. Sanitary napkin

Bedpan

Sterile tray containing

1. Artery clamp
2. Thumb forceps
3. Big cotton balls 10
4. Bowl with 1:20 savlon
5. Gauze pieces -3.

Preparation of the mother

1. Explanation
2. Ask her to void.

Preparation of Unit

Good light for adequate visualization of the suture area.

Method	Rationale
1. Explain to her	
2. Make her lie in dorsal position with knee flexed	Good visualization of perineal area is possible.
3. Provide privacy with screen	Un necessary exposure of the area may cause discomfort to the mother.
4. Remove the knot of the napkin at the back as well as at the front and keep the pad in place.	
5. Keep the bedpan (The bedpan should be warmed up by pouring warm water over it before keeping)	
6. Wash hands.	To prevent cross infection.
7. Wear mask. Open the tray and take a gauze piece keep it over the end of the pad and remove the pad.	Using gauze to remove the pad will avoid contamination of hand.
8. Keep the pad in a kidney tray (inside of the pad should not be exposed to the outside).	
9. Pour the 2% savlon solution over the perineal area.	Antiseptic lotion will prevent infection of the wound.
10. Take cotton ball with the help of artery calmp. Dip it inside the antiseptic lotion in the bowl (1:20 savlon).	To prevent additional infection.
11. Clean the perineum in the following order a) Monspubis b) Vestibule c) Labia minora d) Labia majora e) Perineal area without touching the wound. f) Lateral thighs g) Anus	

12. Dry it with cotton balls. Discard the artery clamp in the kidney tray.	
13. Examine the wound area carefully. Take gauze piece with the help of thumb forceps.	To assess the signs of infection.
14. Clean the wound area first then the surrounding skin with cotton dipped in spirit.	To prevent infection.
15. Discard the thumb forceps.	
16. Apply a fresh pad tie it at the front.	
17. Remove the bedpan.	
18. Make her to turn to one side.	
19. Tie the pad at the back.	
20. Clean the back with antiseptic lotion and dry it.	
21. Make her to lie down comfortably.	

QUESTIONS

I. Choose the correct answer

1. Hand washing is done to

   a) Prevent cross infection　　b) promote cleanliness

   c) all of the above　　d) none of the above

2. The position of the mother during perineal care is

   a) Supine position　　b) left lateral position

   c) Lithotomy position　　d) All of the above

II. Write in detail

1. Perineal care.

11. FOOT CARE FOR DIABETES MELLITUS

Foot care involves all aspects of preventive and curative care of the foot and ankle. People who have diabetes are vulnerable to nerve and vascular damage that can result in loss of protective sensation in the feet, poor circulation and poor healing of foot ulcers. Diabetes may reduce blood flow to the feet, making it harder to heal an injury or resist infection.

Purposes

- To maintain skin integrity
- To provide comfort for clients and sense of well being.
- To maintain foot function
- To encourage self-care.
- To prevent foot ulcers.
- To identify any corns and calluses and to treat them early and effectively.

Equipments needed

- Water proof pad
- Wash cloth
- Soft towels
- Wash basin
- Warm water
- Soap
- Lotion
- Disposable gloves
- Nail clippers
- Polish remover (if necessary)

Assessment

- Assess vital signs of the client
- Explain the procedure to the client.
- Assess foot wear worn by client. Socks should be worn to absorb excess perspiration and avoid fungal infection.

Procedure	Rationale
• Wash hands	To prevent infection
• Make client to sit in the chair comfortable if the client is bed ridden elevate the head of bed.	To promote comfort
• Fill ¾ of basin with warm water 100F -104F Place water proof pad under basin. Soak client's feet in basin.	Warm water softens nails, increases local circulation. Diabetic clients may have decreased sensation in their extremities. Test water temperature carefully to prevent burns.
• Allow feet to soak for 20 minutes.	Softening allows easier removal of dead epithelial cells and reduces possibility of nails from cracking.
• Apply soap and wash the feet thoroughly	Application of soap and washing removes the dirt's
• Dry the feet thorough with soft towel including the area between the toes	Soft towel is good for easy absorption and wiping the area between the toes reduces risk for bacterial growth.
• Apply water soluble lotion if the skin is dry.	To provide comfort.
• Replace the articles correctly	
• Wash hands.	
• Record the procedure.	
• Teach and encourage the client to do the procedure daily to prevent foot complications.	To identify early if there is any problem and to treat properly.
• Teach them to check feet daily for red spots, cuts, swelling and blisters. To see the bottom of the feet use a mirror or ask someone to help.	Commercial removers may contain ingredients that can lead to development of infection and ulcers.
• Explain the dangers of giving barefoot.	
• Advise to wear appropriate shoes.	Skin or feet may be injured.
• Advise not to use heating pads and hot-water bottles.	Inappropriate shoes may cause friction and injury to the feet.
• Educate the client to put the feet while sitting. Wiggle the toes and move the ankles up and down for 5 minutes two or three times a day.	Danger of blistering and burning the feet. To enhance blood circulation.
• Ask not to cross the legs and sit for long period of time.	
• Advise not to smoke or drink alcohol if the client has that habit.	To prevent further complications.

NAIL CARE

Procedure

Purpose

- Maintain skin integrity around nails.
- Provide for clients comfort and sense of well being.
- Maintain foot function
- Encourage self-care.

Assessment

- Note client gait for limping or unusual position. Unnatural gait can be caused by painful feet or bone and muscle disorders.
- Assess footwear worn by client. Socks should be worn to absorb excess perspiration and avoid fungal infections.
- Identify clients at risk for foot or nail problems:
  - Diabetes is associated with changes in micro circulation to peripheral tissues. The diabetic client is at high risk for infection from breaks in skin integrity and may have decreased sensation to pain as a result of neuropathies.
  - Elderly client's ability to perform foot and nail care may be impeded by poor vision, obesity, or musculoskeletal conditions that limit their ability to bend and maintain balance.
  - Cerebrovascular accident may alter the client's gait due to foot drop, muscle weakness, or paralysis.
  - Conditions associated with foot and ankle edema (renal failure, congestive heart failure) interfere with blood flow to surrounding tissues and impede proper shoe fit.
- Determine client's ability to perform self-care.
- Inspect nails and skin of fingers, toes, and feet. Assess areas between toes for dryness and cracking.
- Assess client's knowledge of foot and nail care practices.
- Review agency policy for trimming nails. Many agencies require
- Identify clients going to surgery. Nail polish must be removed, so nail beds can be assessed for changes in oxygenation.

Equipments :

Water proof pad

Washcloth, towels

Washbasin, warm water, soap

Lotion

Disposable gloves

Nail clippers, file

Orange stick

Polish remover (if necessary)

Procedure

Steps	Rationale
• Wash your hands	
• Help client to chair if possible. Elevate head of bed for bedridden client.	
• Remove colored nail polish if client is scheduled for surgery. Review agency policy to determine patient may wear clear nail polish.	Coloured nail polish prevents observation of the nail beds for changes in colour associated with poor oxygenation.
• Fill washbasin with warm water. (100-104° F). Place waterproof pad under basin. Soak clients' hands or feet in basin.	Warm water softens nails, increases local circulation, and reduces inflammation.
• Place call bell within reach. Allow hands or feet soak for 10-20 minutes.	Softening allows easier removal of dead epithelial cells and reduces possibility of nails cracking during trimming.
• Dry the hand or foot that has been Soaking. Rewarm water, and allow other extremity to soak while you work on the softened nails.	Soaking the second hand or foot while the nurse works on the first increases efficiency of time.
• Gently clean under nails with orange stick.	
• Beginning with large toe or thumb, Clip nail straight across.	
•Push cuticle back gently with orange stick.	Cuticle care reduces inflamed cuticle and bang nail formation.

• Repeat procedure with other nails. • Rinse foot or hand in warm water. • Dry thoroughly with towel, especially between digits. • Apply lotion to hands or feet. • Help client to comfortable position • Remove and dispose of equipment. • Wash your hands.	Removing excess moisture inhibits bacterial growth.

Summary

- Foot care involves all aspects of preventive and corrective care of the foot and ankle.
- Foot care to maintain skin integrity and to maintain foot function to prevent foot ulcers.
- Diabetes may reduce blood flow to the feet making harder to heal an injury or resist infection.

QUESTIONS

I. Fill up the blanks

1. In performing foot and nail care allow hands or feet soak for ______________to minutes.
2. Temperature of water for foot care is ______________

II. Essay

1. Explain the procedure of foot care.